

Service Manual

Colour Video Camera
AW-E560E

Simplified

Please file and use this manual together with the service manuals for the Model No. WV-E550E,
order No. AVS9404832C8.

SPECIFICATIONS

Pickup element :	1/2" interline, supersensitive CCD
Pixels :	752 (H) x 582 (V) pixels
Scanning :	2:1 interlace
System :	PAL
Scanning frequency :	15.625 kHz (horizontal), 50 Hz (vertical)
Lens mount :	1/2" standard bayonet mount
Synchronizing :	Internal or external
External sync Input :	VBS, BB, VS or HD/VD
Sensitivity :	2000 lux, F9.5, 3200 °K
Minimum illumination :	5 lx, at F1.4, +18 dB
Signal-to-noise ratio :	60 dB (typical)
Horizontal resolution :	800 TV lines (high band, DTL ON)
Registration :	0.05%
Contour correction :	Horizontal and vertical (2 Line Type)
White balance :	AWC (2 memories), MANU, ATW
Black balance :	AUTO, Manual
Colour bar :	full colour bar (Setup 0)
Encoder :	Y, U, V
Shutter speed :	1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000, MANU (1/15000 to 1/62)
Gain :	0 dB, 9 dB, 18 dB, AGC
Gamma correction :	ON/OFF switchable
Storage mode :	Field/frame switchable
Iris :	AUTO, ELC
Video output :	Composite: 1 Vp-p (75 Ω) x 1 (BNC connector) (VIDEO/RGB connector) R/B/G: 0.7 Vp-p (75 Ω) x 1 (VIDEO/RGB connector) Y: 1 Vp-p (75 Ω) x 1 (VIDEO/RGB connector) C: 0.3Vp-p chroma level(75 Ω) x 1 (VIDEO/RGB connector) PR: 0.7 Vp-p (75 Ω) x 1 (VIDEO/RGB connector) PB: 0.7 Vp-p (75 Ω) x 1 (VIDEO/RGB connector) Sync: 4 V/0.3 V (75 Ω) switchable x 1 (VIDEO/RGB connector)

Panasonic

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⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.

It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.

Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.



This symbol warns the user that uninsulated voltage within the unit may have sufficient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any inside part of this unit.

This symbol alerts the user that important literature concerning the operation and maintenance of this has been included. Therefore, it should be read carefully in order to avoid any problems.

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are indicated by the "Δ" mark on the schematic diagram and the replacement parts list. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent X-radiation, shock, fire, or other hazards. Do not modify the original design without permission of manufacturer.

Source voltage :	12 V DC
Power consumption :	12.0 W
Operating temperature :	-10°C to +45°C (14°F to +113°F)
Storage temperature :	-20°C to +60°C (4°F to +140°F)
Dimensions :	81 (W) x 86 (H) x 169 (D) mm [3-3/16" (W) x 3-3/8" (H) x 6-5/8" (D)]
Weight :	1.2 kg (2.64 lbs.)

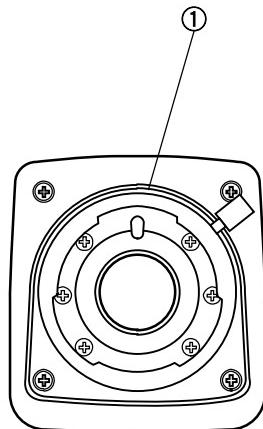
STANDARD ACCESSORIES

Body cap	1
4 pin connector for EXT DC IN	1

OPTIONAL ACCESSORIES

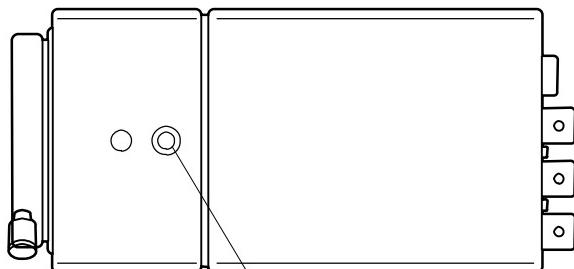
Multiplex Adaptor WV-PS550	Conversion Cable (for AG-B640 or AU-B110)
Remote Control Unit (RCU)	WV-RC550A
Remote Control Unit (RCU)	WV-RC700A
Remote Control Box (RCB)	WV-CB700A
RCU Rack Mount Frame	WV-Q70
Lens Extension Cable	WV-CA12T12 (12-pin - 12-pin, approx. 15 cm/6")
Conversion Cable (for WV-CB700A)	WV-CA20T10 (20-pin - 10-pin, approx. 1m/3.3ft)
Conversion Cable (for WV-RC700A)	WV-CA26T20 (26-pin - 20-pin, approx. 3m/9.9ft)
Connection Cable (Dsub-Dsub)	WV-CA9T9 (9-pin - 9-pin, approx. 5m/16.5ft)
	WV-CA4C4P
	Connection Cable (Dsub-BNC)
	WV-CA9T5 (9-pin - BNC, approx. 5m/16.5ft)
	Studio Cable (for WV-RC700A)
	WV-CA26U15 (26-pin - 26-pin, approx. 15m/49.5ft)
	WV-CA26U30 (26-pin - 26-pin, approx. 30m/99ft)
	WV-CA26U100 (26-pin - 26-pin, approx. 100m/330ft)
	Joint Connector WV-CA26T26 (26-pin - 26-pin))
	RCB Cable (for WV-CB700A)
	WV-CA10B25 (10-pin - 10-pin, approx. 25m/82.5ft)
	WV-CA10B50 (10-pin - 10-pin, approx. 50m/165ft)
	Mounting Bracket WV-831

MAJOR OPERATING CONTROLS AND THEIR FUNCTIONS

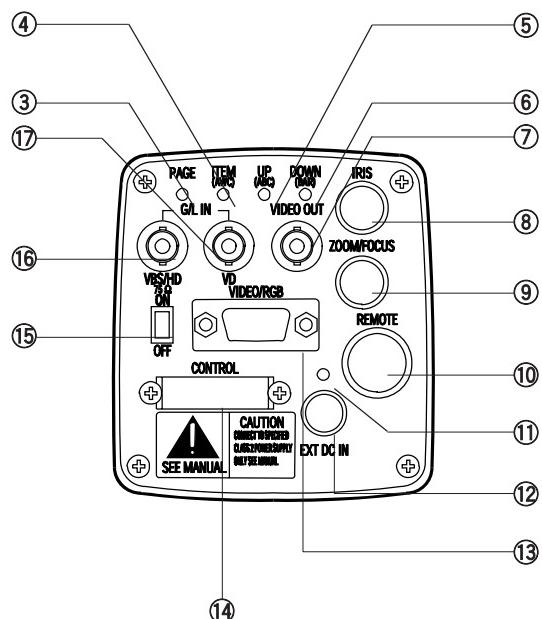
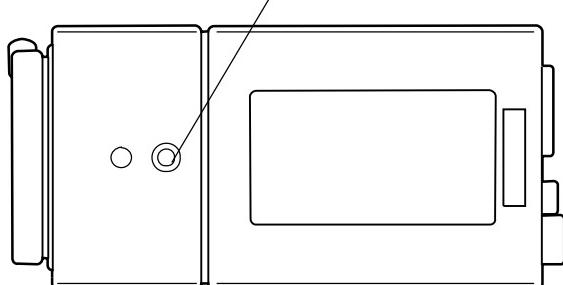


<Front View>

<Top View>



<Bottom View>



1. Lens Mount

1/2" standard bayonet type lens or a microscope adaptor can be mounted.

2. Mounting Hole

A screw hole (1/4" - 20 UNC) for mounting the camera on a wall, ceiling with a mounting bracket or tripod.

3. Page Switch (PAGE)

A menu will appear on the monitor screen when this switch is pressed for around 2 seconds. Pressing the switch advances the menu page.

4. Item Switch (ITEM/AWC)

Any of the items shown in the menu can be selected with this switch. When the menu is not displayed or the camera is in shooting mode, the automatic white balance control can be set with this switch.

5. Up Switch (UP/ABC)

While the menu is displayed, any setting can be brought up to a higher value with this switch. When the menu is not displayed or the camera is in shooting mode, the automatic black balance control can be set with this switch.

6. Down Switch (DOWN/BAR)

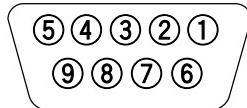
While the menu is displayed any setting can be brought down to a lower value with this switch. When the menu is not displayed or the camera is in shooting mode, the colour bar and the shooting conditions are alternately indicated by pressing the switch.

13. Video/RGB Output Connector (VIDEO/RGB)

Composite/Y signal, RGB/Y-C/component signal and synchronizing signal are output from this connector.
 * Refer to Page 40 for signal selection.
 The optional cable WV-CA9T5 or WV-CA9T9 must be used for connection to this connector.

Pin No.	Signal	Pin No.	Signal
1	GND	6	SY/COMP
2	GND	7	SYNC
3	R/PR/C	8	GND
4	G/Y/Y	9	C/NC
5	B/PB/NC		

Video/RGB Output Connector (VIDEO/RGB)



<Front View>

14. Control Connector (CONTROL)

Control signals for a pan/tilt unit come to this connector when a pan/tilt unit controller is connected to the camera through the Remote Control Unit WV-RC700A with a multicable.

The multiplex adaptor WV-PS550 is connected to this connector when using a coaxial multiplex system. The WV-RC700A and WV-PS550 can be connected with a coaxial cable.

Pin No.	Signal	Pin No.	Signal
1	Composite Video Output	15	Defroster Control Output
2	GND	16	Wiper Control Output
3	Not Used	17	Common
4	Not Used	18	+5.2 V Output
5	G/L Input	19	GND
6	GND	20	-5.2 V Output
7	WV-PS550 Detect	21	GND
8	PS Transmission	22	GND
9	PS Reception	23	DC 12 V Input
10	GND	24	DC 12 V Input
11	UP Control Output	25	Not Used
12	Down Control Output	26	+9.2 V Output
13	Left Control Output	27	GND
14	Right Control Output	28	GND

Control Connector (CONTROL)



<Front View>

15. G/L Signal 75-ohm ON/OFF Switch (75Ω ON/OFF)

A terminating switch for G/L signals at G/L VBS/HD input connector and G/L VD input connector.

16. G/L VBS/HD Input Connector (G/L IN - VBS/HD)

Signals synchronized with the reference signal are to be supplied to this connector when the camera is to be synchronized with the reference signal. VBS/BB, VS and HD signals are to be automatically determined.

17. G/L VD Input Connector (G/L IN - VD)

Same as Item (16) except that VD signal is to be supplied when input signal at Item (16) is HD.

ADJUSTMENT PROCEDURE

Refer to the Adjustment Procedure for WV-E550
except described below.

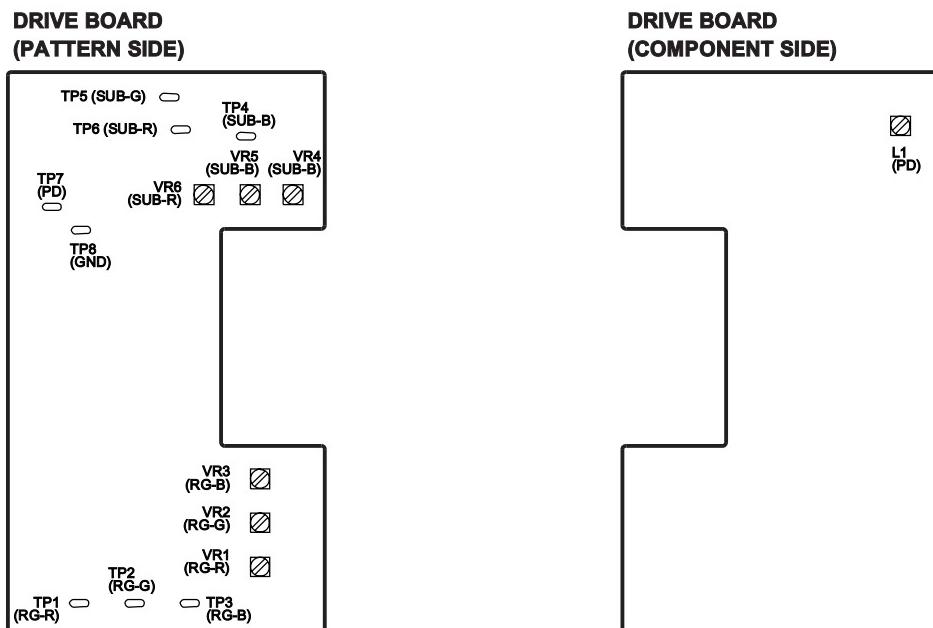
(3) Drive PLL Adjustment

Test point: TP7 (DRIVE VCO) Drive Board

Adjust: L1 (28MHz VCO) Drive Board

- Connect the Digital Voltmeter to TP7.
- Adjust L1 to obtain 2.3 ± 0.2 V DC.

LOCATION OF TEST POINTS AND ADJUSTING CONTROLS



COMPARISON PARTS LIST

■ MISCELLANEOUS

	WV-E550E	AW-E560E	
REF. NO.	PART NO.	PART NO.	DESCRIPTION
MISCELLANEOUS			
M3	YWV0EA0307AN	YW0E1A015A	Optical Head Assy
M5	YWV5KA1329A1	YW4A1A004A	Upper Case
M11	YWV7QA3240A4	YW7B1A122A	Main Label

■ DRIVE BOARD

	WV-E550E	AW-E560E	
REF. NO.	PART NO.	PART NO.	DESCRIPTION
DRIVE BOARD			
PCB1 (RTL)	YWVKBE550E1A	YWVKBE550E1A	Printed Circuit Board Assy
D9	_____	MA165K	Diode
R25	_____	ERJ3GEY0R00	Carbon 150K ohms 1/16W
R26	ERJ3GEY0R00	_____	Carbon 5.6K ohms 1/16W
R164	ERJ3GEYJ103	ERJ3GEYJ562	Carbon 5.6K ohms 1/16W
R168	_____	ERJ3GEY0R00	Carbon 0 ohm 1/16W
C2,4	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C13-15	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C16-18	ECEV1CV100	YWRVS1C100M	Electrolytic 10 µF16V
C19-21	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C23-25	ECEV1EV100	YWRVS1E100M	Electrolytic 10 µF 25V
C44	YW5X102K5VB	GRM9B102K5H	Ceramic 1000 pF
C47	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C48	YW5CH330J5VB	GRM9CH330J5H	Ceramic 33 pF
C49	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C54,55	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C59	_____	YW5CH100J5VB	Ceramic 10 pF
C60	YW5X102K5VB	GRM9B102K5H	Ceramic 1000 pF
L2	YWNL32T150	_____	_____
TP9,10	_____	YWRCT2125TPV	Test Point

■ DIGITAL PROCESS BOARD

	WV-E550E	AW-E560E	
REF. NO.	PART NO.	PART NO.	DESCRIPTION
DIGITAL PROCESS BOARD			
PCB2 (RTL)	YWVKCE550E1A	YWKCE550E1A	Printed Circuit Board Assy
C1	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C2	ECEV0JV220	YWRVS0J220M	Electrolytic 22 µF 6.3V
C5	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C6	ECEV0JV220	YWRVS0J220M	Electrolytic 22 µF 6.3V
C10,11	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C15,17	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C19	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C21-32	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C34,35	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C37	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C39-45	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C47-50	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C61-63	YW5CH330J5VB	GRM9CH330J5H	Ceramic 33 pF
C201,204	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C205,207	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C301,304	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C305,307	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C401,404	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C405,407	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C501,504	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C505,507	YYW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C509	YW5CH330J5VB	GRM9CH330J5H	Ceramic 33 pF
C600	—————	YGM1C121J1HT	Ceramic 120 pF

■ SYSTEM CONTROL BOARD

	WV-E550E	AW-E560E	
REF. NO.	PART NO.	PART NO.	DESCRIPTION
SYSTEM CONTROL BOARD			
PCB3 (RTL)	YWKCE550P2A	YWKCE550P2B	Printed Circuit Board Assy
IC3	YWM27C512F52	YWM27C512F58	IC
IC4	43256AGU10L	43256BGU85L	IC
R140	ERJ3GEYJ472	ERJ3GEYJ102	Carbon 4.7K ohms 1/16W
C1,3	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C8,9	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C11-14	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C18	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C24-29	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C31-33	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C39,41	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C43-46	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C48	YW5X102K5VB	GRM9B102K5H	Ceramic 1000 pF
C49,51	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C52,60	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C65,67	ECEV0JV220	YWRVS0J220M	Electrolytic 22 µF 6.3V
C70	ECEV0JV220	YWRVS0J220M	Electrolytic 22 µF 6.3V

■ PREAMP / ENCODER BOARD

	WV-E550E	AW-E560E	
REF. NO.	PART NO.	PART NO.	DESCRIPTION
PREAMP / ENCODER BOARD			
PCB4 (RTL)	YWKBE550E3A	YWKBE550E3A	Printed Circuit Board Assy
R107,112	ERJ3GEYJ152	ERJ3GEYJ182	Carbon 1.8K ohms 1/16W
VR12,13	EVM7JGA30B13	EVM7JGA00B23	Variable Resistor 2K ohms
C1	ECEV0JV330	YWRVS0J330M	Electrolytic 33 µF 6.3V
C2	ECEV1CV470	EEVHB1C470P	Electrolytic 47 µF 16V
C4	ECEV0JV330	YWRVS0J330M	Electrolytic 33 µF 6.3V
C5	ECEV0JV470S	YWRVS0J470M	Electrolytic 47 µF 6.3V
C8	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C9	ECEV1CV100	YWRVS1C100M	Electrolytic 10 µF 16V
C14	ECEV1CV100	EEVHB1C100R	Electrolytic 10 µF 16V
C15	ECEV1CV100	YWRVS1C100M	Electrolytic 10 µF 16V
C20	ECEV1CV100	YWRVS0J220M	Electrolytic 22 µF 6.3V
C24	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C25	ECEV0JV330	EEVHB0J330R	Electrolytic 33 µF 6.3V
C27	YW5CH020D5VB	YW5CH030D5V	Ceramic 3 pF
C28,29	ECEV1CV100	YWRVS1C100M	Electrolytic 10 µF 16V
C30	ECEV1CV100	EEVHB1C100R	Electrolytic 10 µF 16V
C41,42	ECEV1CV100	YWRVS1C100M	Electrolytic 10 µF 16V
C45,46	ECEV1HV010	YWRVS1H1R0M	Electrolytic 1 µF 50V
C47,48	ECEV1CV100	EEVHB1C100R	Electrolytic 10 µF 16V
C49-51	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C52,53	ECEV1CV470	YWRVS1C470M	Electrolytic 47 µF 16V
C55	ECEV1HV010	YWRVS1H1R0M	Electrolytic 1 µF 50V
C56	ECEV0JV330	YWRVS0J330M	Electrolytic 33 µF 6.3V
C62	ECEV1CN100	YWRVP1C100M	Electrolytic 10 µF 16V
C64	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C65	ECEV1CV100	YWRVS1C100M	Electrolytic 10 µF 16V
C66	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C67	ECEV1CV100	YWRVS1C100M	Electrolytic 10 µF 16V
C68	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C71	ECEV1CV100	EEVHB1C100R	Electrolytic 10 µF 16V
C88-90	ECEV1HV010	YWRVS1H1R0M	Electrolytic 1 µF 50V
C91,92	ECEV1CV470	YWRVS1C470M	Electrolytic 47 µF 16V
C93	ECEV1CV100	YWRVS1C100M	Electrolytic 10 µF 16V
C94	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C95	ECEV1CV100	EEVHB1C100R	Electrolytic 10 µF 16V

	WV-E550E	AW-E560E		
REF. NO.	PART NO.	PART NO.	DESCRIPTION	
PREAMP / ENCODER BOARD				
C96	ECEV0JV330	EEVHB0J330R	Electrolytic	33 µF 6.3V
C97	YW5F104Z2VB	YGM1F104Z1ET	Ceramic	0.1 µF 25V
C98,99	ECEV0JV330	EEVHB0J330R	Electrolytic	33 µF 6.3V
C100	YW5F104Z2VB	YGM1F104Z1ET	Ceramic	0.1 µF 25V
C101	ECEV0JV330	EEVHB0J330R	Electrolytic	33 µF 6.3V
C102	YW5F104Z2VB	YGM1F104Z1ET	Ceramic	0.1 µF 25V
C103	ECEV0JV330	EEVHB0J330R	Electrolytic	33 µF 6.3V
C104	YW5F104Z2VB	YGM1F104Z1ET	Ceramic	0.1 µF 25V
C105	ECEV1CV100	EEVHB1C100R	Electrolytic	10 µF 16V
C106	ECEV1CV100	YWRVS1C100M	Electrolytic	10 µF 16V
C116,118	ECEV1CV100	YWRVS1C100M	Electrolytic	10 µF 16V
C119,120	ECEV1CV100	YWRVS1C100M	Electrolytic	10 µF 16V
C122	ECEV1CV100	EEVHB1C100R	Electrolytic	10 µF 16V
C123-125	YW5F104Z2VB	YGM1F104Z1ET	Ceramic	0.1 µF 25V
C128,129	ECEV1CV470	YWRVS1C470M	Electrolytic	47 µF16V
C401,403	ECEV1CV100	YWRVS1C100M	Electrolytic	10 µF 16V
C405	ECEV1CV100	YWRVS1C100M	Electrolytic	10 µF 16V
C501,503	YW5CH180J5VB	GRM9CH180J5H	Ceramic	18 pF
C504	YW5F104Z2VB	YGM1F104Z1ET	Ceramic	0.1 µF 25V
C505,508	ECEV1CV100	YWRVS1C100M	Electrolytic	10 µF 16V
C509	YW5F104Z2VB	YGM1F104Z1ET	Ceramic	0.1 µF 25V
C511	ECEV1CV470	YWRVS1C470M	Electrolytic	47 µF16V
C514	ECEV1CV100	YWRVS1C100M	Electrolytic	10 µF 16V
C515,516	YW5F104Z2VB	YGM1F104Z1ET	Ceramic	0.1 µF 25V
C601,603	YW5CH180J5VB	GRM9CH180J5H	Ceramic	18 pF
C604	YW5F104Z2VB	YGM1F104Z1ET	Ceramic	0.1 µF 25V
C605,608	ECEV1CV100	YWRVS1C100M	Electrolytic	10 µF 16V
C609	YW5F104Z2VB	YGM1F104Z1ET	Ceramic	0.1 µF 25V
C611	ECEV1CV470	YWRVS1C470M	Electrolytic	47 µF 16V
C614	ECEV1CV100	YWRVS1C100M	Electrolytic	10 µF 16V
C615,616	YW5F104Z2VB	YGM1F104Z1ET	Ceramic	0.1 µF 25V
C701,703	YW5CH180J5VB	GRM9CH180J5H	Ceramic	18 pF
C704	YW5F104Z2VB	YGM1F104Z1ET	Ceramic	0.1 µF 25V
C705,708	ECEV1CV100	YWRVS1C100M	Electrolytic	10 µF16V
C709	YW5F104Z2VB	YGM1F104Z1ET	Ceramic	0.1 µF 25V
C711	ECEV1CV470	YWRVS1C470M	Electrolytic	47 µF16V
C714	ECEV1CV100	YWRVS1C100M	Electrolytic	10 µF 16V
C715,716	YW5F104Z2VB	YGM1F104Z1ET	Ceramic	0.1 µF 25V
DL5	_____	ELB4A514	Delay Line	
L1-4	YWNL32T5R6J	_____	_____	
L5	_____	ELB4A514	Delay Line	

■ SYNC BOARD

	WV-E550E	AW-E560E	
REF. NO.	PART NO.	PART NO.	DESCRIPTION
SYNC BOARD			
PCB5 (RTL)	YWKCE550E3A	YWKCE550E3A	Printed Circuit Board Assy
IC3	MN73093	MN73093LBX	IC
IC13	YWTC4S11F	YWTC4S11FR	IC
IC15	YWTC7W08F	YWTC7W08FL	IC
IC31	YWTC7S04F	YWTC7S04FR	IC
R163	—	ER3GEY0R00	Carbon 0 ohm 1/16W
R179	ERJ3GEYJ332	ER3GEYJ242	Carbon 2.4K ohm 1/16W
VR2	EVM7JGA30B14	EVM7JGA00B14	Variable Resistor 10K ohms
C1,2	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C4,6	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C8,9	YW5CH311J5VB	GRM9CH331J5H	Ceramic 330 pF
C12	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C14	YW5CH311J5VB	GRM9CH331J5H	Ceramic 330 pF
C16,18	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C23	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C31	ECEV1EV4R7	YWRVS1E4R7M	Electrolytic 4.7 µF 25V
C32	YW5X102K5VB	GRM9B102K5H	Ceramic 1000 pF
C34	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C37-39	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C40	ECEV0JN100S	YWRVP1A100M	Electrolytic 10 µF 10V
C41	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C42	ECEV0JV330	YWRVS0J220M	Electrolytic 22 µF 6.3V
C43	ECEV1CV100	EEVHB1C100R	Electrolytic 10 µF 16V
C44	ECEV1CV100	YWRVS1C100M	Electrolytic 10 µF 16V
C45,47	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C49	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C50	ECEV1CV100	YWRVS1C100M	Electrolytic 10 µF 16V
C51	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C52	ECEV1CV100	YWRVS1C100M	Electrolytic 10 µF 16V
C53,75	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C76	YW5X102K5VB	GRM9B102K5H	Ceramic 1000 pF
C77-81	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V

■ MOTHER BOARD

	WV-E550E	AW-E560E	
REF. NO.	PART NO.	PART NO.	DESCRIPTION
MOTHER BOARD			
PCB9 (RTL)	YWVKBE550P2A	YWVKBE550P2B	Printed Circuit Board Assy
IC8	YWNJM2902N	YWNJM2902VT1	IC
R38-43	ERJ3GEYJ473	ERJ3GEY0R00	Carbon 0 ohm 1/16W
R44	ERJ3GEYJ223	_____	_____
R102	_____	ERJ3GEYJ104	Carbon 100K ohms 1/16W
C1	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C4-6	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C7	ECEV1CV470	YWRVS1C470M	Electrolytic 47 µF 16V
C8-10	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V
C11	ECEV1EV330	YWRVS1E330M	Electrolytic 33 µF 25V
C12	ECEV1CV470	YWRVS1C470M	Electrolytic 47 µF 16V
C16-18	ECEV1EV4R7	EEVHB1H3R3R	Electrolytic 4.7 µF 25V
C20	YW5X102K5VB	GRM9B102K5H	Ceramic 1000 pF
C21,22	ECEV1EV330	YWRVS1E330M	Electrolytic 33 µF 25V
C24,25	ECEV1EV330	YWRVS1E330M	Electrolytic 33 µF 25V
C26,27	ECEV0JV101	YWRVS0J101M	Electrolytic 100 µF 6.3V
C28	ECEV0JV220	YWRVS0J220M	Electrolytic 22 µF 6.3V
C29	ECEV0JV101	YWRVS0J101M	Electrolytic 100 µF 6.3V
C30	ECEV1CV470	YWRVS1C470M	Electrolytic 47 µF 16V
C31	ECEV1CV100	YWRVS1C100M	Electrolytic 10 µF 16V
C32	ECEV1CV470	YWRVS1C470M	Electrolytic 47 µF 16V
C34,43	YW5F104Z2VB	YGM1F104Z1ET	Ceramic 0.1 µF 25V

■ ACCESSORY PARTS/PACKAGING PARTS

	WV-E550E	AW-E560E	
REF. NO.	PART NO.	PART NO.	DESCRIPTION
ACCESSORY PARTS/PACKAGING PARTS			
M31	YWV8QA3249AN	YW7J1A096A	Operating Instructions
M35	YWV9CF2203AN	YW0C1A013A	Packaging Ass'y

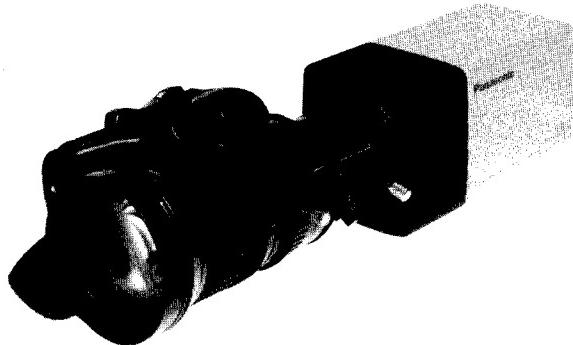
Printed in Japan
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Service Manual

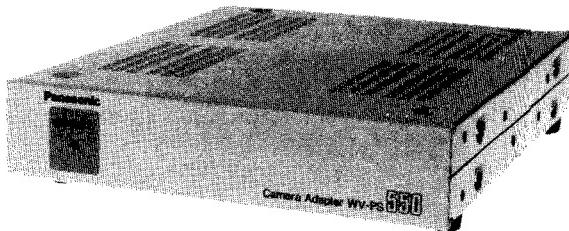
Colour Video Camera

WV-E550E

Camera Adaptor

WV-PS550

(Lens : Purchased locally)

WV-E550E**WV-PS550****WV-E550E****SPECIFICATIONS**

Pickup element	1/2" interline, supersensitive CCD
Pixels	752 (H) x 582 (V) pixels
Scanning	2:1 interlace
System	PAL
Scanning frequency	15.625 kHz (horizontal), 50 Hz (vertical)
Lens mount	1/2" standard bayonet mount
Synchronizing	Internal or external
External sync input	VBS, BB, VS or HD/VD
Sensitivity	2000 lux, F8, 3200 °K
Minimum illumination	7 lux, at F1.4, +18 dB
Signal-to-noise ratio	60 dB (typical)
Horizontal resolution	800 TV lines (high band, DTL ON)
Registration	0.05%
Contour correction	Horizontal and vertical (2 Line Type)
White balance	AWC (2 memories), MANU, ATW
Black balance	AUTO, Manual
Colour bar	full colour bar (Setup 0)
Encoder	Y, U, V
Shutter speed	1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000, MANU (1/15000 to 1/62)
Gain	0 dB; 9 dB, 18 dB; AGC
Gamma correction	ON/OFF switchable
Storage mode	Field/frame switchable
Iris	AUTO, ELC
Video output	Composite: 1 Vp-p (75 Ω) x 1 (BNC connector) (VIDEO/RGB connector) R/B/G: 0.7 Vp-p (75 Ω) x 1 (VIDEO/RGB connector) Y: 1 Vp-p (75 Ω) x 1 (VIDEO/RGB connector) C: 0.3Vp-p chroma level(75 Ω) x 1 (VIDEO/RGB connector) PR: 0.7 Vp-p (75 Ω) x 1 (VIDEO/RGB connector) PB: 0.7 Vp-p (75 Ω) x 1 (VIDEO/RGB connector) Sync: 4 V/0.3 V (75 Ω) switchable x 1 (VIDEO/RGB connector)

Panasonic

Source voltage	12 V DC
Power consumption	12.0 W
Operating temperature	-10°C to +45°C (14°F to +113°F)
Storage temperature	-20°C to +60°C (4°F to +140°F)
Dimensions	81 (W) x 86 (H) x 169 (D) mm [3-3/16" (W) x 3-3/8" (H) x 6-5/8" (D)]
Weight	1.2 kg (2.64 lbs.)

Weight and dimensions indicated are approximate.
Specifications are subject to change without notice.

STANDARD ACCESSORIES

Body cap	1
4 pin connector for EXT DC IN	1

OPTIONAL ACCESSORIES

Multiplex Adaptor WV-PS550	Connection Cable (Dsub-BNC)
Remote Control Unit (RCU) WV-RC700A	WV-CA9T5 (9-pin - BNC, approx. 5m/16.5ft)
Remote Control Box (RCB) WV-CB700A	Studio Cable (for WV-RC700A)
RCU Rack Mount Frame WV-Q70	WV-CA26U15 (26-pin - 26-pin, approx. 15m/49.5ft)
Lens Extension Cable	WV-CA26U30 (26-pin - 26-pin, approx. 30m/99ft)
WV-CA12T12 (12-pin - 12-pin, approx. 15 cm/6")	WV-CA26U100 (26-pin - 26-pin, approx. 100cm/330ft)
Conversion Cable (for WV-CB700A)	Joint Connector WV-CA26T26 (26-pin - 26-pin)
WV-CA20T10 (20-pin - 10-pin, approx. 1m/3.3ft)	RCB Cable (for WV-CB700A)
Conversion Cable (for WV-RC700A)	WV-CA10B25 (10-pin - 10-pin, approx. 25m/82.5ft)
WV-CA26T20 (26-pin - 20-pin, approx. 3m/9.9ft)	WV-CA10B50 (10-pin - 10-pin, approx. 50m/165ft)
Connection Cable (Dsub-Dsub)	Mounting Bracket WV-831
WV-CA9T9 (9-pin - 9-pin, approx. 5m/16.5ft)	

WV-PS550

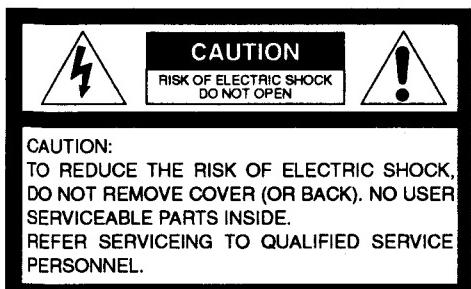
SPECIFICATIONS

Power:	Input voltage 85 - 110V DC (supplied by the RCU WV-RC700A)
Input and Output:	
MPX Input and Output:	Frequency multiplex signal (N type connector x 1)
Data Input:	RS-232C, 2400 bps (4-pin connector x 1)
	The Camera Adaptor WV-PS550, Camera WV-E550 and Remote Control Unit can not be controlled by RS-232C directly.
Audio Input:	-20 dB audio signal
Pan/Tilt and Housing Control Output:	Right, left, up and down, defroster and wiper
	Open collector output (low active)
	Sink current 20 mA max.
	Withstand voltage 30V max. (28-pin connector x 1 each)
Switch Function:	Audio in/Data in Select Switch
Dimensions:	206.5 (W) x 44 (H) x 250 (D) mm (8-1/8" (W) x 1-11/16" (H) x 9-1/2" (D))
Weight:	2.4 kg (5.28lbs.)

Weight and dimensions indicated are approximate.
Specifications are subject to change without notice.

STANDARD ACCESSORIES

Camera Cable (36-pin/28-pin)	1pc
4-pin Connector for DATA IN	1pc
N type Connector for MPX	1pc



This symbol warns the user that uninsulated voltage within the unit may have sufficient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any inside part of this unit.

This symbol alerts the user that important literature concerning the operation and maintenance of this has been included. Therefore, it should be read carefully in order to avoid any problems.

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are indicated by the "Δ" mark on the schematic diagram and the replacement parts list. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire, or other hazards.

Do not modify the original design without permission of manufacturer.

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WV-PS550

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WV-PS550	
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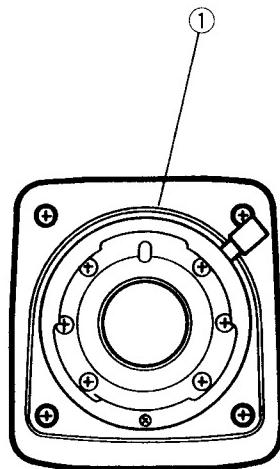
Exploded View

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Replacement Parts List

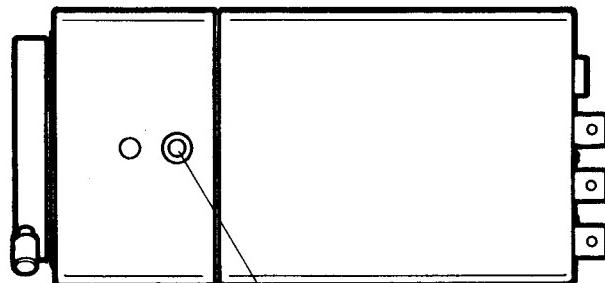
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MAJOR OPERATING CONTROLS AND THEIR FUNCTIONS (WV-E550E)

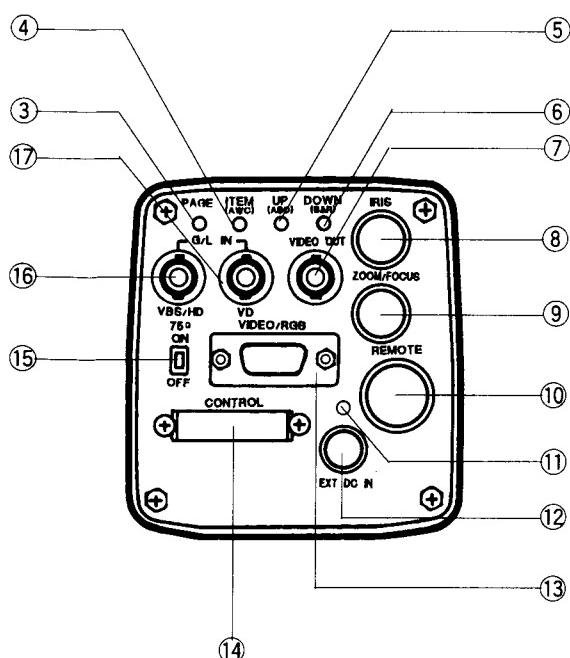
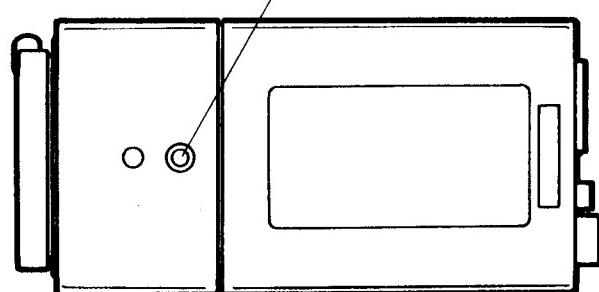


<Front View>

<Top View>



<Bottom View>



1. Lens Mount

1/2" standard bayonet type lens or a microscope adaptor can be mounted.

2. Mounting Hole

A screw hole (1/4" - 20 UNC) for mounting the camera on a wall, ceiling with a mounting bracket or tripod.

3. Page Switch (PAGE)

A menu will appear on the monitor screen when this switch is pressed for around 2 seconds. Pressing the switch advances the menu page.

4. Item Switch (ITEM/AWC)

Any of the items shown in the menu can be selected with this switch. When the menu is not displayed or the camera is in shooting mode, the automatic white balance control can be set with this switch.

5. Up Switch (UP/ABC)

While the menu is displayed, any setting can be brought up to a higher value with this switch. When the menu is not displayed or the camera is in shooting mode, the automatic black balance control can be set with this switch.

6. Down Switch (DOWN/BAR)

While the menu is displayed any setting can be brought down to a lower value with this switch. When the menu is not displayed or the camera is in shooting mode, the colour bar and the shooting conditions are alternately indicated by pressing the switch.

7. Video Output Connector (VIDEO OUT)

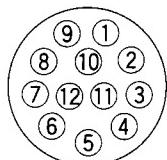
A composite video signal is provided at this connector.

8. Iris Connector (IRIS)

Input terminal for lens with an iris control function. Some lenses may require an optional lens extension cable for connection.

Pin No.	Signal	Pin No.	Signal
1	Not Used	7	Iris F
2	Not Used	8	Auto/Remote Control
3	GND	9	Not Used
4	Auto/Manual Control	10	Not Used
5	Iris Control	11	Not Used
6	Lens P	12	Not Used

Iris Connector (IRIS)



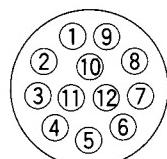
<Front View>

9. Zoom/Focus Connector (ZOOM/FOCUS)

Input terminal for lens with zoom and focus function that can be remote controlled.

Pin No.	Signal	Pin No.	Signal
1	Not Used	7	Voltage Common
2	Not Used	8	Focus Control
3	GND	9	Zoom Control
4	Not Used	10	Not Used
5	Not Used	11	Lens +V
6	+12 V	12	Lens -V

Zoom/Focus Connector (ZOOM/FOCUS)



<Front View>

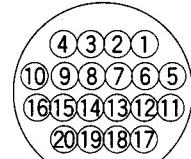
10. Remote Connector (REMOTE)

Input terminal dedicated to control signals from the optional Remote Control Box (WV-CB700A) and the Remote Control Unit (WV-RC700A).

- * WV-CB700A is connected through the optional conversion cable (WV-CA20T10).
- * WV-RC700A is connected through the optional conversion cable (WV-CA26T20).

Pin No.	Signal	Pin No.	Signal
1	Composite Video Output	11	RCB Transmission
2	GND	12	Control (Command)
3	G/Y/Y Output	13	+9.2 V RCB
4	R/PR/C Output	14	DC 12 V Output
5	GND	15	DC 12 V Input
6	RCB Detect	16	DC 12 V Input
7	EXT SUB In	17	RCB Reception
8	B/PB Output	18	GND
9	GND	19	GND
10	G/L Input	20	Not used

Remote Connector (REMOTE)



<Front View>

11. Power Indicator

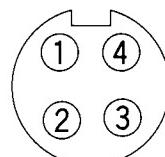
Red LED lamp lights to indicate that the specified DC power is supplied to the camera.

12. DC Input Connector (EXT DC IN)

12 V DC is supplied through the 4-pin connector provided with the camera.

Pin No.	Signal
1	+12 V In
2	+12 V In
3	Ground
4	Ground

DC Input Connector (EXT DC IN)



<Front View>

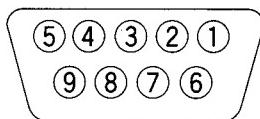
13. Video/RGB Output Connector (VIDEO/RGB)

Composite/Y signal, RGB/Y-C/component signal and synchronizing signal are output from this connector.

The optional cable WV-CA9T5 or WV-CA9T9 must be used for connection to this connector.

Pin No.	Signal	Pin No.	Signal
1	GND	6	SY/COMP
2	GND	7	SYNC
3	R/PR/C	8	GND
4	G/Y/Y	9	C/NC
5	B/PB/NC		

Video/RGB Output Connector (VIDEO/RGB)



<Front View>

14. Control Connector (CONTROL)

Control signals for a pan/tilt unit come to this connector when a pan/tilt unit controller is connected to the camera through the Remote Control Unit WV-RC700A with a multicable.

The multiplex adaptor WV-PS550 is connected to this connector when using a coaxial multiplex system. The WV-RC700A and WV-PS550 can be connected with a coaxial cable.

Pin No.	Signal	Pin No.	Signal
1	Composite Video Output	15	Defroster Control Output
2	GND	16	Wiper Control Output
3	Not Used	17	Common
4	Not Used	18	+5.2 V Output
5	G/L Input	19	GND
6	GND	20	-5.2 V Output
7	WV-PS550 Detect	21	GND
8	PS Transmission	22	GND
9	PS Reception	23	DC 12 V Input
10	GND	24	DC 12 V Input
11	UP Control Output	25	Not Used
12	Down Control Output	26	+9.2 V Output
13	Left Control Output	27	GND
14	Right Control Output	28	GND

Control Connector (CONTROL)



<Front View>

15. G/L Signal 75-ohm ON/OFF Switch (75Ω ON/OFF)

A terminating switch for G/L signals at G/L VBS/HD input connector and G/L VD input connector.

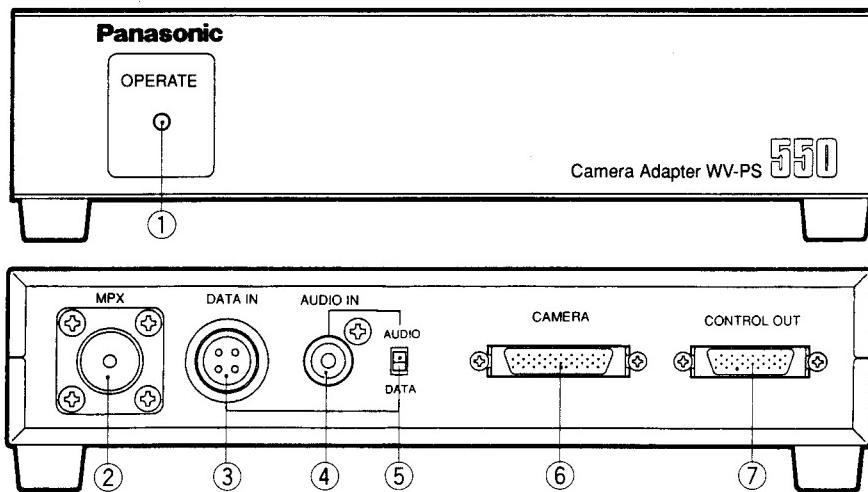
16. G/L VBS/HD Input Connector (G/L IN - VBS/HD)

Signals synchronized with the reference signal are to be supplied to this connector when the camera is to be synchronized with the reference signal. VBS/BB, VS and HD signals are to be automatically determined.

17. G/L VD Input Connector (G/L IN - VD)

Same as Item (16) except that VD signal is to be supplied when input signal at Item (16) is HD.

MAJOR OPERATING CONTROLS AND THEIR FUNCTIONS (WV-PS550)



(1) Power LED (OPERATE)

When the Remote Control Unit (RCU) WV-RC700A and Camera WV-E550 are properly connected and also when the power from the Remote Control Unit is supplied, this LED lights.

(2) MPX Input/Output Connector (MPX)

This connector is used to connect the coaxial cable from the MPX connector of the Remote Control Unit (RCU) WV-RC700A.

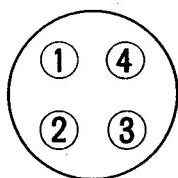
(3) Data Input Connector (DATA IN, 4-pin)

This connector is used to connect the RS-232C (baud rate 2400 bps) control signal from the pan/tilt and lens controller.

Caution:

When connecting the controller to this connector, do not connect anything to the Audio Input Jack (4). Also, be sure to switch the Audio In/Data In Select Switch (5) is set to the DATA IN position.

Pin No.	Signal
1	NC
2	GND
3 -	RXD
4	TXD



(4) Audio Input Jack (AUDIO IN)

This jack is used to supply an audio signal for output to the audio output of the Remote Control Unit (RCU) WV-RC700A.

Caution:

When supplying an audio signal to the remote control unit using this jack, nothing should be connected to the Data Input Connector (3) and Audio In/Data In Select Switch (5) should be switched over to the AUDIO position.
Also, be sure to switch the select switch on the MOD PCB board of the Remote Control Unit (RCU) WV-RC700A to the AUDIO position.

(5) Audio In/Data In Select Switch (AUDIO IN/DATA IN)

This switch is used to select the Data Input Connector (3) and the Audio Input Jack (4).

AUDIO IN: Audio signal supplied to WV-RC700A is selected.

DATA IN: Data signal supplied from the controller is selected.

(6) Camera Cable Connector (CAMERA 36-pin)

This connector is used to connect the 36-pin side of the supplied 28-pin/36-pin cable.

(The 28-pin side of the cable should be connected to the Colour Camera WV-E550.)

(7) Control Output Connector (CONTROL OUT, 28-pin)

This connector is used to connect the cable for controlling the pan/tilt unit.

Pin No.	Signal
11	UP
12	DOWN
13	LEFT
14	RIGHT
15	DEF
16	WIPE
17	COM (0V)
19, 27, 28	GND
Others	NC

* Control signal Interface

Control system: ON/OFF

Polarity: Low active

Output: Open collector

(transistor withstand voltage: 30V max.)

Sink current: 20 mA max.

* Caution:

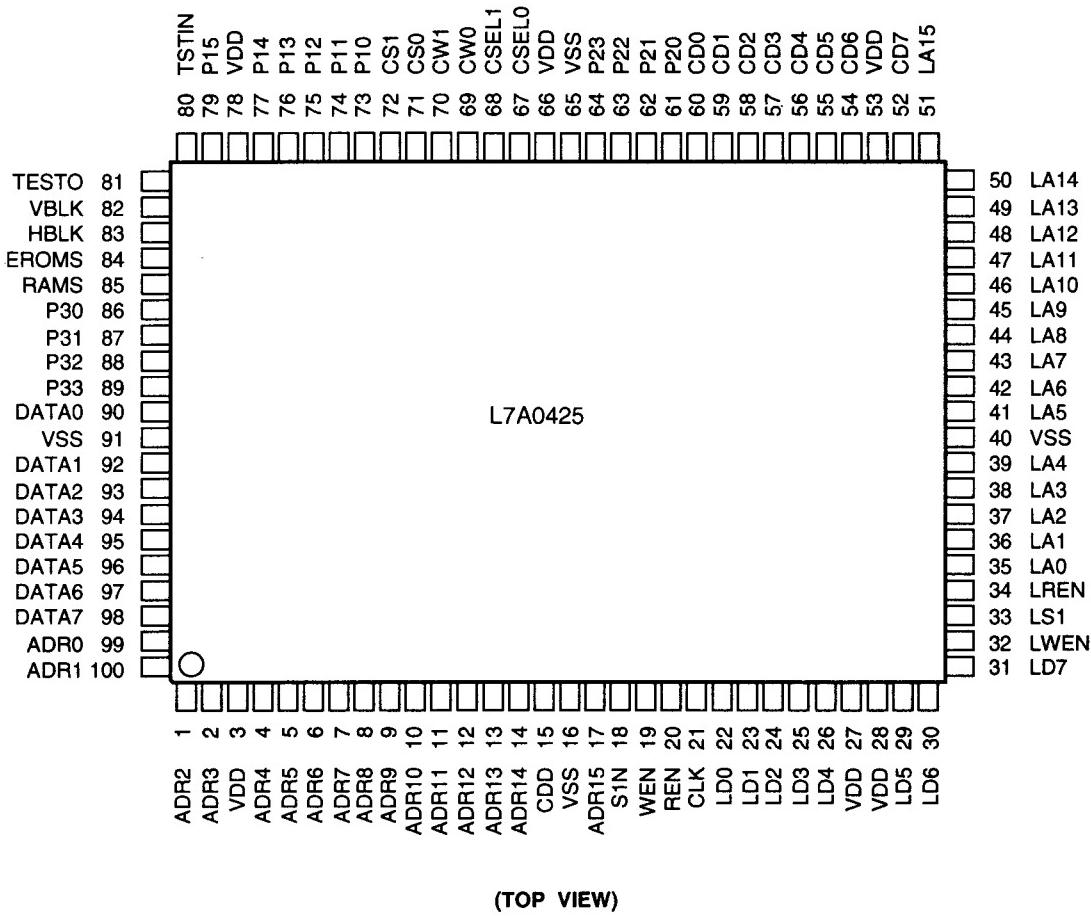
When driving the pan/tilt head, relay, etc. directly, care should be taken to prevent the power from going up beyond the withstand voltage of the adaptor output circuit and the sink current (20 mA max.).

CIRCUIT DESCRIPTION

IC Description (WV-E550E)

1. IC1 on the System Control Board is using the Microprocessor I/O Expander Gate Array Logic IC YWL7A0425.

Description of this IC is as follows:



(TOP VIEW)

Pin	Name	I/O	Description
1	ADR2	I	Address input terminals from Microprocessor. (16-Bit)
2	ADR3	I	
3	VDD	-	Power supply terminal.
4	ADR4	I	
5	ADR5	I	
6	ADR6	I	
7	ADR7	I	
8	ADR8	I	
9	ADR9	I	
10	ADR10	I	
11	ADR11	I	
12	ADR12	I	
13	ADR13	I	
14	ADR14	I	

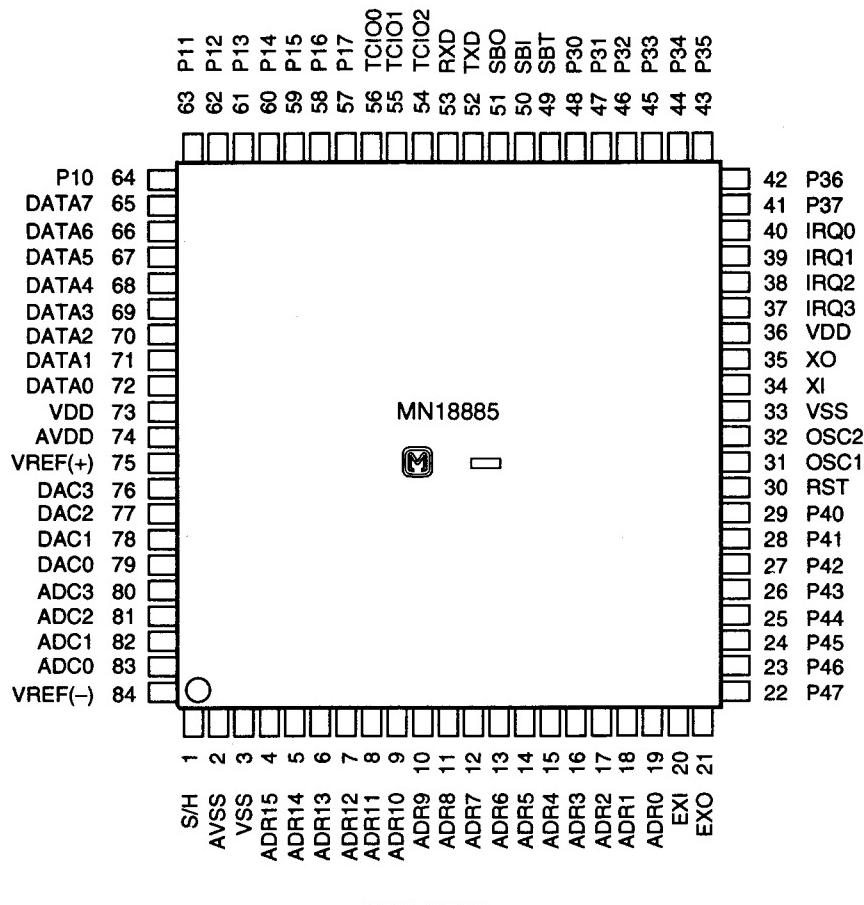
Pin	Name	I/O	Description
15	VDD	-	Power supply terminal.
16	VSS	-	Ground terminal.
17	ADR15	I	Address (MSB) input terminal from Microprocessor.
18	S1N	I	S1N signal input terminal.
19	WEN	I	Write enable signal input terminal.
20	REN	I	Read enable signal input terminal.
21	CLK	I	Clock pulse input terminal.
22	LD0	I/O	(LSB)
23	LD1	I/O	
24	LD2	I/O	
25	LD3	I/O	
26	LD4	I/O	
27	VDD	-	Power supply terminal.

Pin	Name	I/O	Description
28	VDD	-	Power supply terminal.
29	LD5	I/O	
30	LD6	I/O	Data input/output terminals between Digital Board.
31	LD7	I/O	(MSB)
32	LWEN	I	Write enable signal input terminal.
33	LS1	I	LS1 signal input terminal.
34	LREN	I	Read enable signal input terminal.
35	LA0	O	(LSB)
36	LA1	O	
37	LA2	O	Address output terminals for Digital Board. (16-Bit)
38	LA3	O	
39	LA4	O	
40	VSS	-	Ground terminal.
41	LA5	O	
42	LA6	O	
43	LA7	O	
44	LA8	O	
45	LA9	O	
46	LA10	O	Address output terminals for Digital Board. (16-Bit)
47	LA11	O	
48	LA12	O	
49	LA13	O	
50	LA14	O	
51	LA15	O	(MSB)
52	CD7	O	DOWN SW signal output terminal.
53	VDD	-	Power supply terminal.
54	CD6	O	UP SW signal output terminal.
55	CD5	O	LEFT SW signal output terminal.
56	CD4	O	RIGHT SW signal output terminal.
57	CD3	O	FAR SW signal output terminal.
58	CD2	O	NEAR SW signal output terminal.
59	CD1	O	WIDE SW signal output terminal.
60	CD0	O	TELE SW signal output terminal.
61	P20	I	P20 signal input terminal.
62	P21	I	Clock Data input terminal.
63	P22	-	Test point terminal.
64	P23	-	Test point terminal.
65	VSS	-	Ground terminal.
66	VDD	-	Power supply terminal.

Pin	Name	I/O	Description
67	CSEL0	O	Chip Select 0 signal output terminal.
68	CSEL1	O	Chip Select 1 signal output terminal.
69	CW0	I	CW0 signal input terminal.
70	CW1	I	CW1 signal input terminal.
71	CS0	I	CS0 signal input terminal.
72	CS1	I	CS1 signal input terminal.
73	P10	O	SC CRS2 signal output terminal.
74	P11	O	SC CRS2 signal output terminal.
75	P12	O	DEF SW signal output terminal.
76	P13	O	WIPE SW signal output terminal.
77	P14	O	P14 signal output terminal.
78	VDD	-	Power supply terminal.
79	P15	O	P15 signal output terminal.
80	TSTIN	I	Test signal input terminal.
81	TESTO	O	Test signal output terminal.
82	VBLK	I	VBLK signal input terminal.
83	HBLK	I	HBLK signal input terminal.
84	EROMS	O	EROMS signal output terminal.
85	RAMS	O	RAMS signal output terminal.
86	P30	O	OE signal output terminal.
87	P31	O	CCLK Pulse output terminal.
88	P32	O	P32 signal output terminal.
89	P33	O	P33 signal output terminal.
90	DATA0	I/O	DATA (LSB) input/output terminal between Microprocessor. (8-Bit)
91	VSS	-	Ground terminal.
92	DATA1	I/O	
93	DATA2	I/O	
94	DATA3	I/O	
95	DATA4	I/O	
96	DATA5	I/O	
97	DATA6	I/O	
98	DATA7	I/O	(MSB)
99	ADR0	I	(LSB) Address input terminals from Microprocessor. (16-Bit)
100	ADR1	I	

2. IC2 on the System Control Board is using the Microprocessor IC MN18885.

Description of this IC is as follows:



Pin	Name	I/O	Description
1	S/H	I/O	S/H signal input/output terminal.
2	AVSS	-	Ground terminal.
3	VSS	-	Ground terminal.
4	ADR15	O	(MSB) Address output terminals for Microprocessor I/O Expander IC. (16-Bit)
5	ADR14	O	
6	ADR13	O	
7	ADR12	O	
8	ADR11	O	
9	ADR10	O	
10	ADR9	O	
11	ADR8	O	
12	ADR7	O	

Pin	Name	I/O	Description
13	ADR6	O	Address output terminals for Microprocessor I/O Expander IC. (16-Bit)
14	ADR5	O	
15	ADR4	O	
16	ADR3	O	
17	ADR2	O	
18	ADR1	O	
19	ADR0	O	
20	EXI	I	EXI signal input terminal.
21	EXO	O	EXO signal output terminal.
22	P47	O	Read enable signal output terminal.
23	P46	O	Write enable signal output terminal.

Pin	Name	I/O	Description
24	P45	O	P45 signal output terminal.
25	P44	O	P44 signal output terminal.
26	P43	O	P43 signal output terminal.
27	P42	O	P42 signal output terminal.
28	P41	O	S1N signal output terminal.
29	P40	O	S0N signal output terminal.
30	RST	I	Reset signal input terminal.
31	OSC1	I	Oscillator input terminal.
32	OSC2	O	Oscillator output terminal.
33	VSS	-	Ground terminal.
34	XI	I	XI signal input terminal.
35	XO	O	XO signal output terminal.
36	VDD	-	Power supply terminal.
37	IRQ3	I	IRQ3 signal input terminal.
38	IRQ2	I	Power off signal input terminal.
39	IRQ1	I	VD signal input terminal.
40	IRQ0	I	LMW signal input terminal.
41	P37	O	STB signal output terminal.
42	P36	O	LD signal output terminal.
43	P35	O	SEL3 signal output terminal.
44	P34	O	SEL2 signal output terminal.
45	P33	O	SEL1 signal output terminal.
46	P32	O	P32 signal output terminal.
47	P31	O	SYNCSW signal output terminal.
48	P30	O	SHUTTA signal output terminal.
49	SBT	O	SBT signal output terminal.
50	SBI	I	SBI signal input terminal.
51	SBO	O	YOUT3 signal output terminal.
52	TXD	O	TXD signal output terminal.
53	RXD	I	RXD signal input terminal.
54	TCIO2	I	BUSY signal input terminal.
55	TCIO1	I	Data Input Switch terminal.
56	TCIO0	I	WHD signal input terminal.
57	P17	O	VDRST signal output terminal.
58	P16	O	FLD/FRM signal output terminal.
59	P15	O	GAMMA SW signal output terminal.
60	P14	O	IRIS-R/A signal output terminal.
61	P13	O	P13 signal output terminal.
62	P12	O	P12 signal output terminal.
63	P11	O	P11 signal output terminal.

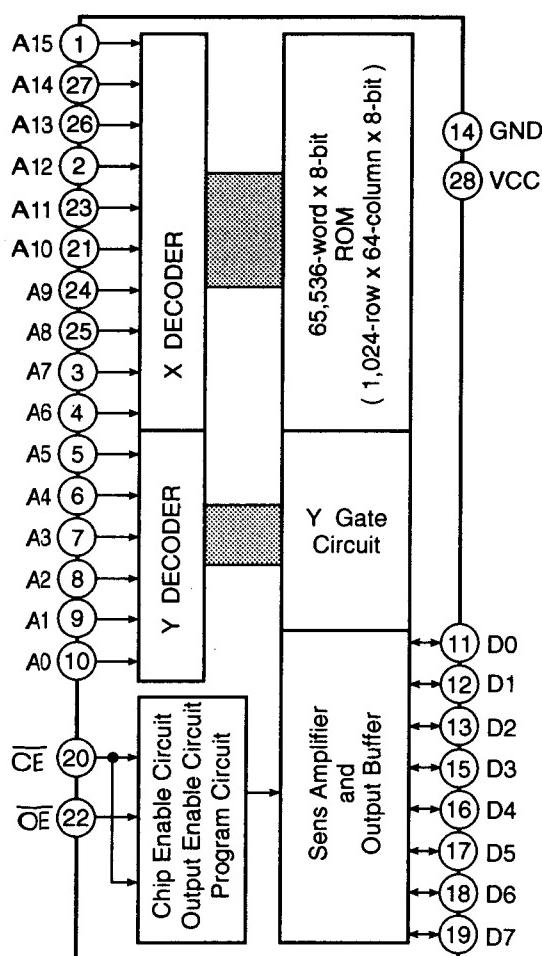
Pin	Name	I/O	Description
64	P10	O	AWCCNT signal output terminal.
65	DATA7	I/O	(MSB)
66	DATA6	I/O	
67	DATA5	I/O	
68	DATA4	I/O	
69	DATA3	I/O	
70	DATA2	I/O	
71	DATA1	I/O	
72	DATA0	I/O	(LSB)
73	VDD	-	Power supply terminal.
74	AVDD	-	Power supply terminal.
75	VREF(+)	I	Reference Voltage (+) input terminal.
76	DAC3	O	D/A Converter 3 output terminal.
77	DAC2	O	D/A Converter 2 output terminal.
78	DAC1	O	D/A Converter 1 output terminal.
79	DAC0	O	D/A Converter 0 output terminal.
80	ADC3	I	A/D Converter 3 input terminal.
81	ADC2	I	A/D Converter 2 input terminal.
82	ADC1	I	A/D Converter 1 input terminal.
83	ADC0	I	A/D Converter 0 input terminal.
84	VREF(-)	I	Reference Voltage (-) input terminal.

3. IC3 on the System Control Board is using the One-time Programmable ROM IC YWM27C512F51.

Description of this IC is as follows:

A15	1	28	VCC
A12	2	27	A14
A7	3	26	A13
A6	4	25	A8
A5	5	24	A9
A4	6	23	A11
A3	7	22	OE
A2	8	21	A10
A1	9	20	CE
A0	10	19	D7
D0	11	18	D6
D1	12	17	D5
D2	13	16	D4
GND	14	15	D3

(TOP VIEW)



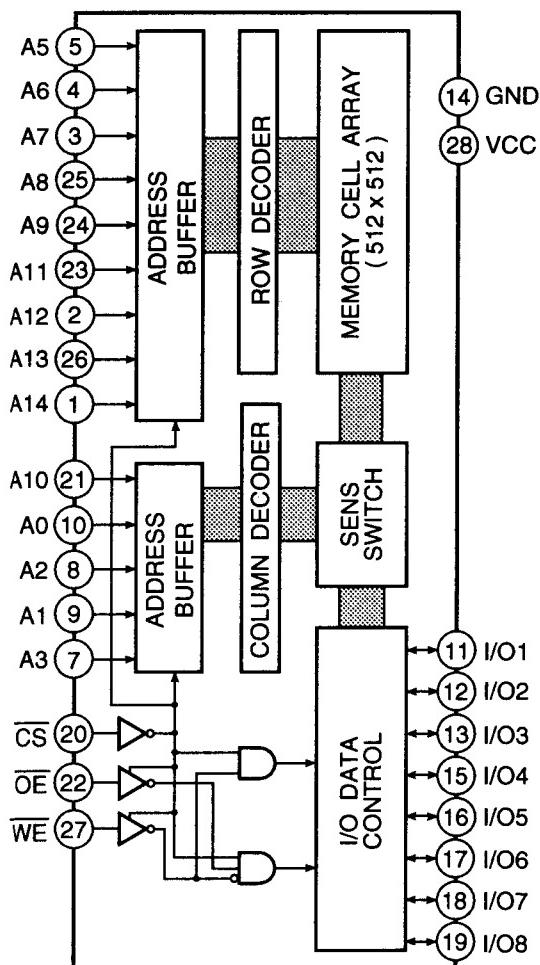
Pin	Name	I/O	Description
1	A15	I	(MSB)
2	A12	I	
3	A7	I	
4	A6	I	
5	A5	I	
6	A4	I	
7	A3	I	
8	A2	I	
9	A1	I	
10	A0	I	(LSB)
11	D0	I/O	(LSB)
12	D1	I/O	
13	D1	I/O	Data input/output terminals. (8-Bit)
14	GND	-	Ground terminal.
15	D1	I/O	
16	D1	I/O	
17	D1	I/O	
18	D1	I/O	
19	D1	I/O	(MSB)
20	CE	I	Chip enable signal input terminal.
21	A10	I	Address input terminals. (16-Bit)
22	OE	I	Output enable signal input terminal.
23	A11	I	
24	A9	I	
25	A8	I	
26	A13	I	
27	A14	I	
28	VCC	-	Power supply terminal.

4. IC4 on the System Control Board is using the Static RAM IC YW43256AGU10L.

Description of this IC is as follows:

A14	1	28	VCC
A12	2	27	WE
A7	3	26	A13
A6	4	25	A8
A5	5	24	A9
A4	6	23	A11
A3	7	22	OE
A2	8	21	A10
A1	9	20	CS
A0	10	19	I/O8
I/O1	11	18	I/O7
I/O2	12	17	I/O6
I/O3	13	16	I/O5
GND	14	15	I/O4

(TOP VIEW)



Pin	Name	I/O	Description
1	A14	I	(MSB)
2	A12	I	
3	A7	I	
4	A6	I	
5	A5	I	
6	A4	I	
7	A3	I	
8	A2	I	
9	A1	I	
10	A0	I	(LSB)
11	I/O1	I/O	(LSB)
12	I/O2	I/O	
13	I/O3	I/O	
14	GND	-	Ground terminal.
15	I/O4	I/O	
16	I/O5	I/O	
17	I/O6	I/O	
18	I/O7	I/O	
19	I/O8	I/O	(MSB)
20	CS	I	Chip Select signal input terminal.
21	A10	I	Address input terminals. (15-Bit)
22	OE	I	Output enable signal input terminal.
23	A11	I	
24	A9	I	
25	A8	I	
26	A13	I	
27	WE	I	Write enable signal input terminal.
28	VCC	-	Power supply terminal.

CS	OE	WE	MODE	FUNCTION
H	*	*	No Selection	High Impedance
L	H	H	Output disable	High Impedance
L	L	H	Read	DOUT
L	*	L	Write	DIN

* : Don't care

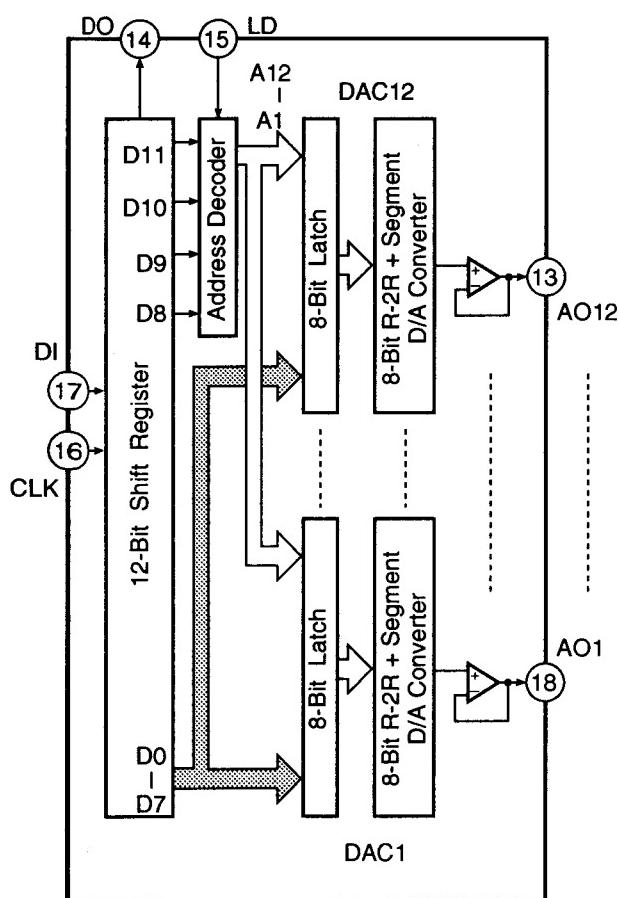
5. IC12 on the System Control Board is using the 12-ch D/A Converter IC YWM62352GP.

Description of this IC is as follows:

Vss (VrefL)	1	20	GND
AO3	2	19	AO2
AO4	3	18	AO1
AO5	4	17	DI
AO6	5	16	CLK
AO7	6	15	LD
AO8	7	14	DO
AO9	8	13	AO12
AO10	9	12	AO11
VDD (VrefU)	10	11	Vcc

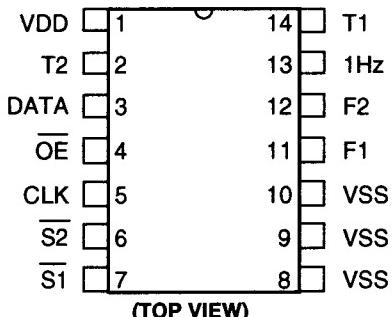
(TOP VIEW)

Pin	Name	I/O	Description
1	Vss (VrefL)	-	Lower reference voltage supply terminal for D/A Converter circuit.
2	AO3	O	Analog Data 3 output terminal.
3	AO4	O	Analog Data 4 output terminal.
4	AO5	O	Analog Data 5 output terminal.
5	AO6	O	Analog Data 6 output terminal.
6	AO7	O	Analog Data 7 output terminal.
7	AO8	O	Analog Data 8 output terminal.
8	AO9	O	Analog Data 9 output terminal.
9	AO10	O	Analog Data 10 output terminal.
10	VDD (VrefU)	-	Upper reference voltage supply terminal for D/A Converter circuit.
11	Vcc	-	Power supply terminal terminal.
12	AO11	O	Analog Data 11 output terminal.
13	AO12	O	Analog Data 12 output terminal.
14	DO	O	MSB Data output terminal from 12-Bit Shift Register.
15	LD	I	Load signal input terminal. Data of 12-Bit Shift Register should be loaded to Decoder and D/A Output Registers when LD = H.
16	CLK	I	Shift Clock input terminal. Serial Data from DI terminal should be input to Decoder and 12-Bit Shift Register at raising edge of this signal.
17	DI	I	12-Bit Serial Data input terminal.
18	AO1	O	Analog Data 1 output terminal.
19	AO2	O	Analog Data 2 output terminal.
20	GND	-	Ground terminal.

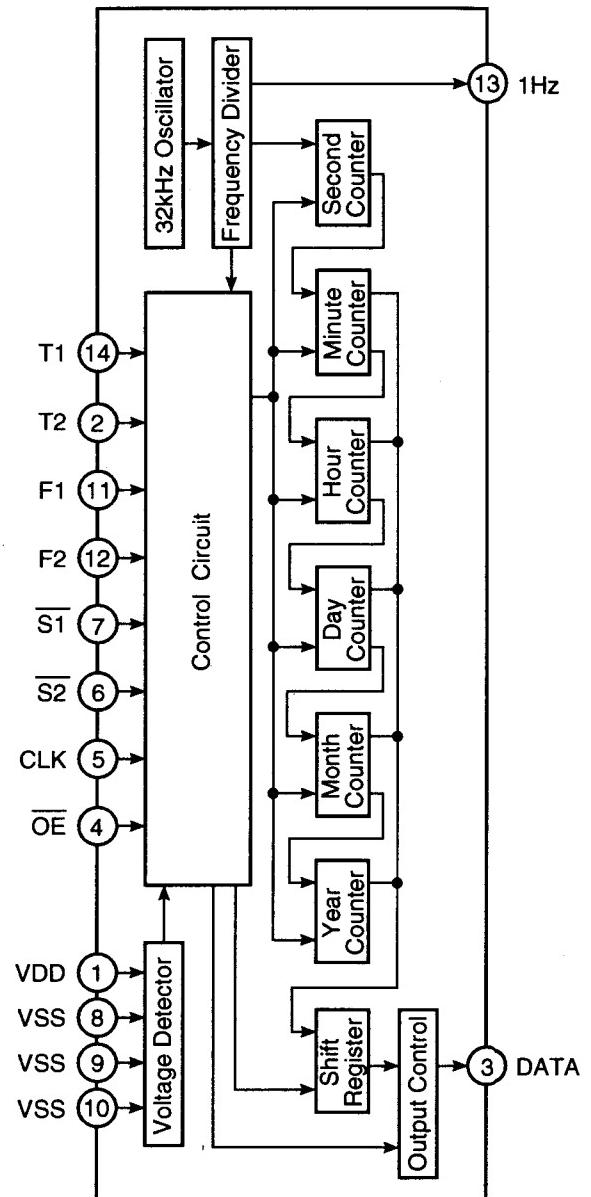


6. IC18 on the System Control Board is using the Real-time Clock IC YWRTC450315B.

Description of this IC is as follows:



Pin	Name	I/O	Description
1	VDD	-	Power supply terminal. Normally 1.5V.
2	T2	I	Test terminal 2. Normally connect at VSS.
3	DATA	O	Data output terminal. Data should be output when \overline{OE} terminal is at "L".
4	OE	I	Output enable signal input terminal.
5	CLK	I	Clock Pulse input terminal.
6	$\overline{S2}$	I	S_2 signal input terminal. Active at "L".
7	$\overline{S1}$	I	S_1 signal input terminal. Active at "L".
8	VSS	-	Ground terminal.
9	VSS	-	Ground terminal.
10	VSS	-	Ground terminal.
11	F1	I	F1 signal input terminal.
12	F2	I	F2 signal input terminal.
13	1Hz	O	1Hz Pulse output terminal. 50% duty cycle.
14	T1	I	Test terminal 1. Normally connect at VSS.



7. IC17 on the System Control Board is using the On-screen Display IC YWUPD6450601.

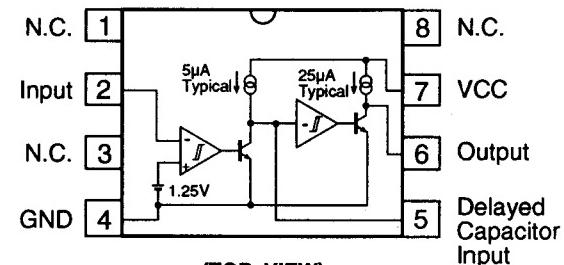
Description of this IC is as follows:

BUSY	1	20	VIN
CLK	2	19	VOUT
STB	3	18	VVL
DATA	4	17	VBL
VDD	5	16	VCL
N.C.	6	15	TEST
CKOUT	7	14	H SYNC
LOUT	8	13	V SYNC
LIN	9	12	XOUT
Vss	10	11	XIN

(TOP VIEW)

8. IC10 and IC15 on the System Control Board are using the Voltage Detector IC YWM51957AFP.

Description of this IC is as follows:



(TOP VIEW)

9. IC18 on the System Control Board, IC3 and IC4 on the Mother Board are using the Quad Analog Switches/Multiplexers/Demultiplexers IC UPD4066 BG.

Description of this IC is as follows:

Pin	Name	I/O	Description
1	BUSY	O	Busy signal output terminal.
2	CLK	I	Serial Clock input terminal.
3	STB	I	Strobe signal input terminal.
4	DATA	I	Serial Data input terminal.
5	VDD	-	Power supply terminal.
6	N.C.	-	Non connection.
7	CKOUT	O	Clock Pulse output terminal for Oscillation frequency check.
8	LOUT	O	LC Oscillator output terminal.
9	LIN	I	LC Oscillator input terminal.
10	VSS	-	Ground terminal.
11	XIN	I	Crystal Oscillator input terminal.
12	XOUT	O	Crystal Oscillator output terminal.
13	VSYNC	I	Vertical Sync signal input terminal.
14	H SYNC	I	Horizontal Sync signal input terminal.
15	TEST	-	Test terminal.
16	VCL	I	VCL signal input terminal.
17	VBL	I	VBL signal input terminal.
18	VVL	I	VVL signal input terminal.
19	VOUT	O	Video signal output terminal.
20	VIN	I	Video signal input terminal.

In/Out 1	1	14	VCC
Out/In 1	2	13	Control In 1
Out/In 2	3	12	Control In 4
In/Out 2	4	11	In/Out 4
Control In 2	5	10	Out/In 4
Control In 3	6	9	Out/In 3
GND	7	8	In/Out 3

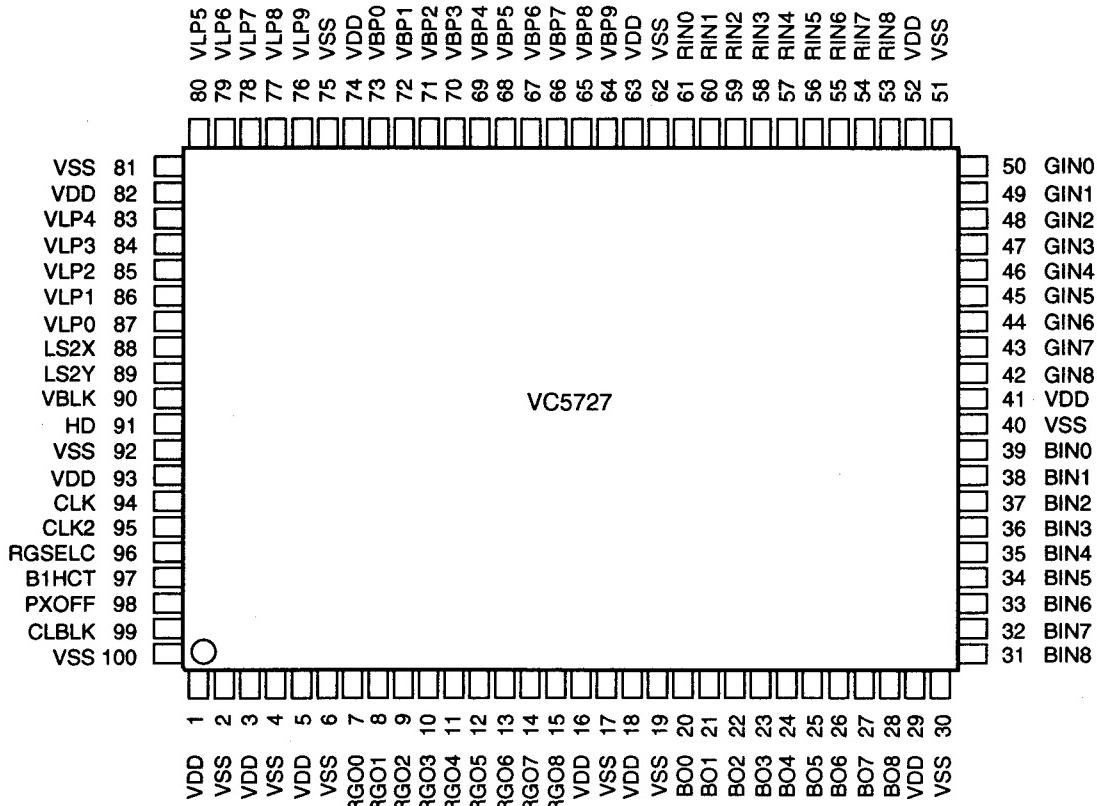
(TOP VIEW)

Truth Table

Input	Switch
Control	I/O - O/I
L	OFF
H	ON

10. IC2 on the Digital Process Board is using the Gate Array Logic IC YWVC5727.

Description of this IC is as follows:



(TOP VIEW)

Pin	Name	I/O	Description
1	VDD	-	Power supply terminal for I/O.
2	VSS	-	Ground terminal for I/O.
3	VDD	-	Power supply terminal for I/O.
4	VSS	-	Ground terminal for I/O.
5	VDD	-	Power supply terminal for I/O.
6	VSS	-	Ground terminal for I/O.
7	RGO0	O	(LSB)
8	RGO1	O	
9	RGO2	O	
10	RGO3	O	
11	RGO4	O	
12	RGO5	O	
13	RGO6	O	
14	RGO7	O	
15	RGO8	O	(MSB)
16	VDD	-	Power supply terminal for I/O.

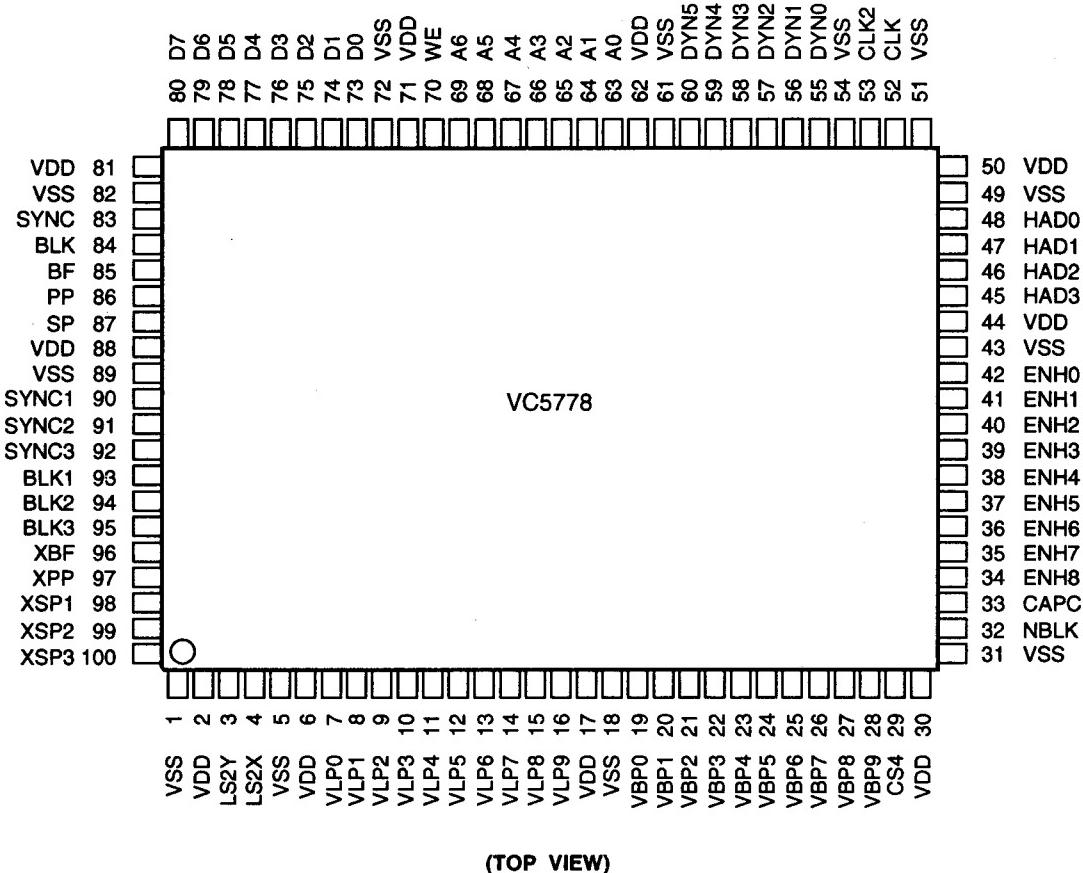
Pin	Name	I/O	Description
17	VSS	-	Ground terminal for Core.
18	VDD	-	Power supply terminal for Core.
19	VSS	-	Ground terminal for I/O.
20	BO0	O	(LSB)
21	BO1	O	
22	BO2	O	
23	BO3	O	
24	BO4	O	
25	BO5	O	
26	BO6	O	
27	BO7	O	
28	BO8	O	(MSB)
29	VDD	-	Power supply terminal for I/O.
30	VSS	-	Ground terminal for I/O.
31	BIN8	I	(MSB)
32	BIN7	I	B12 signal input terminals. (9-Bit)

Pin	Name	I/O	Description
33	BIN6	I	B12 signal input terminals. (9-Bit)
34	BIN5	I	
35	BIN4	I	
36	BIN3	I	
37	BIN2	I	
38	BIN1	I	
39	BIN0	I	
40	VSS	-	
41	VDD	-	
42	GIN8	I	
43	GIN7	I	G12 signal input terminals. (9-Bit)
44	GIN6	I	
45	GIN5	I	
46	GIN4	I	
47	GIN3	I	
48	GIN2	I	
49	GIN1	I	
50	GIN0	I	
51	VSS	-	
52	VDD	-	
53	RIN8	I	R12 signal input terminals. (9-Bit)
54	RIN7	I	
55	RIN6	I	
56	RIN5	I	
57	RIN4	I	
58	RIN3	I	
59	RIN2	I	
60	RIN1	I	
61	RIN0	I	
62	VSS	-	
63	VDD	-	VB24 signal output terminals. (10-Bit)
64	VBP9	O	
65	VBP8	O	
66	VBP7	O	
67	VBP6	O	
68	VBP5	O	
69	VBP4	O	
70	VBP3	O	
71	VBP2	O	
72	VBP1	O	
73	VBP0	O	(LSB)
74	VDD	-	Power supply terminal for I/O.

Pin	Name	I/O	Description
75	VSS	-	Ground terminal for I/O.
76	VLP9	O	(MSB) VL24 signal output terminals. (10-Bit)
77	VLP8	O	
78	VLP7	O	
79	VLP6	O	
80	VLP5	O	
81	VSS	-	Ground terminal for Core.
82	VDD	-	Power supply terminal for Core.
83	VLP4	O	(LSB) VL24 signal output terminals. (10-Bit)
84	VLP3	O	
85	VLP2	O	
86	VLP1	O	
87	VLP0	O	
88	LS2X	I	LS2X signal input terminal.
89	LS2Y	I	LS2Y signal input terminal.
90	VBLK	I	VBLK signal input terminal.
91	HD	I	HD signal input terminal.
92	VSS	-	Ground terminal for I/O.
93	VDD	-	Power supply terminal for Core.
94	CLK	I	CLK signal input terminal.
95	CLK2	I	CLK2 signal input terminal.
96	RGSELC	I	RGSELC signal input terminal.
97	B1HCT	I	B1HCT signal input terminal.
98	PXOFF	I	PXOFF signal input terminal.
99	CLBLK	I	CLBLK signal input terminal.
100	VSS	-	Ground terminal for Core.

11. IC4 on the Digital Process Board is using the Gate Array Logic IC YWVC5778.

Description of this IC is as follows:



Pin	Name	I/O	Description
1	VSS	-	Ground terminal for I/O.
2	VDD	-	Power supply terminal for I/O.
3	LS2Y	O	LS2Y signal output terminal.
4	LS2X	O	LS2X signal output terminal.
5	VSS	-	Ground terminal for I/O.
6	VDD	-	Power supply terminal for I/O.
7	VLP0	I	(LSB)
8	VLP1	I	
9	VLP2	I	
10	VLP3	I	
11	VLP4	I	
12	VLP5	I	
13	VLP6	I	
14	VLP7	I	
15	VLP8	I	
16	VLP9	I	(MSB)

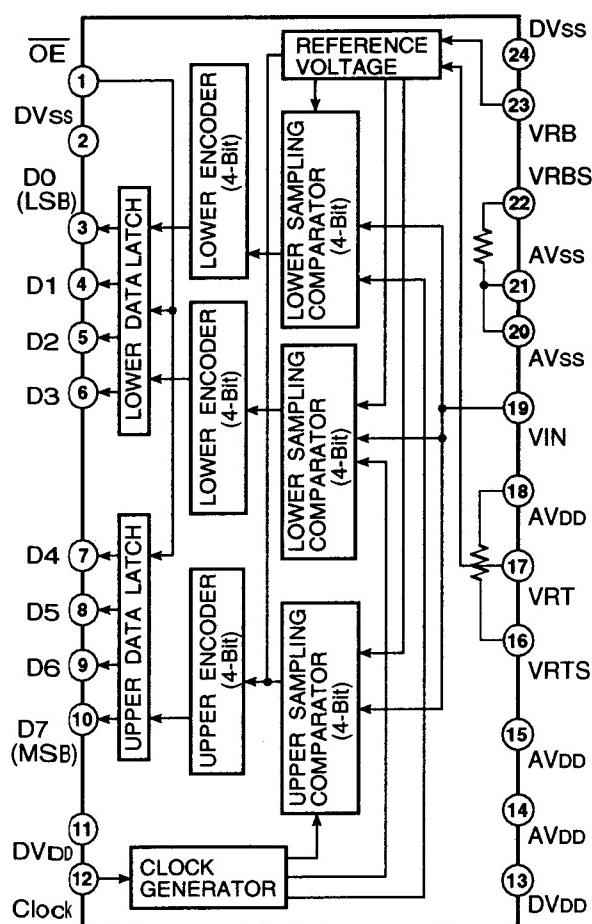
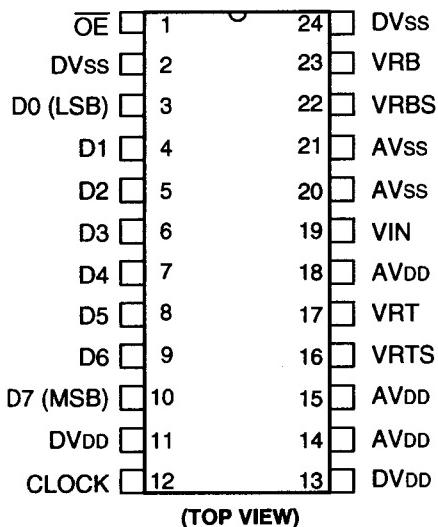
Pin	Name	I/O	Description
17	VDD	-	Power supply terminal for Core.
18	VSS	-	Ground terminal for Core.
19	VBP0	I	(LSB)
20	VBP1	I	
21	VBP2	I	
22	VBP3	I	
23	VBP4	I	
24	VBP5	I	
25	VBP6	I	
26	VBP7	I	
27	VBP8	I	
28	VBP9	I	(MSB)
29	CS4	I	CS4 signal input terminal.
30	VDD	-	Power supply terminal for I/O.
31	VSS	-	Ground terminal for I/O.
32	NBLK	O	NBLK signal output terminal.

Pin	Name	I/O	Description
33	CAPC	O	CAPC signal output terminal.
34	ENH8	O	(LSB)
35	ENH7	O	
36	ENH6	O	
37	ENH5	O	
38	ENH4	O	
39	ENH3	O	
40	ENH2	O	
41	ENH1	O	
42	ENH0	O	(MSB)
43	VSS	-	Ground terminal for I/O.
44	VDD	-	Power supply terminal for I/O.
45	HAD3	I	HAD3 signal input terminal.
46	HAD2	I	HAD2 signal input terminal.
47	HAD1	I	HAD1 signal input terminal.
48	HAD0	I	HAD0 signal input terminal.
49	VSS	-	Ground terminal for Core.
50	VDD	-	Power supply terminal for Core.
51	VSS	-	Ground terminal for I/O.
52	CLK	I	CLK1 Pulse input terminal.
53	CLK2	I	CLK2 Pulse input terminal.
54	VSS	-	Ground terminal for I/O.
55	DYN0	I	(MSB)
56	DYN1	I	
57	DYN2	I	
58	DYN3	I	
59	DYN4	I	
60	DYN5	I	(LSB)
61	VSS	-	Ground terminal for Core.
62	VDD	-	Power supply terminal for Core.
63	A0	I	(LSB)
64	A1	I	
65	A2	I	
66	A3	I	
67	A4	I	
68	A5	I	
69	A6	I	(MSB)
70	WE	I	Write enable signal input terminal.
71	VDD	-	Power supply terminal for I/O.
72	VSS	-	Ground terminal for I/O.
73	D0	I	(LSB) Data input terminals. (8-Bit)
74	D1	I	

Pin	Name	I/O	Description
75	D2	I	
76	D3	I	
77	D4	I	
78	D5	I	
79	D6	I	
80	D7	I	(MSB)
81	VDD	-	Power supply terminal for Core.
82	VSS	-	Ground terminal for Core.
83	SYNC	I	SYNC signal input terminal.
84	BLK	I	BLK signal input terminal.
85	BF	I	BF signal input terminal.
86	PP	I	PP signal input terminal.
87	SP	I	SP signal input terminal.
88	VDD	-	Power supply terminal for I/O.
89	VSS	-	Ground terminal for I/O.
90	SYNC1	O	SYNC1 signal output terminal.
91	SYNC2	O	SYNC2 signal output terminal.
92	SYNC3	O	SYNC3 signal output terminal.
93	BLK1	O	BLK1 signal output terminal.
94	BLK2	O	BLK2 signal output terminal.
95	BLK3	O	BLK3 signal output terminal.
96	XBF	O	XBF signal output terminal.
97	XPP	O	XPP signal output terminal.
98	XSP1	O	XSP1 signal output terminal.
99	XSP2	O	XSP2 signal output terminal.
100	XSP3	O	XSP3 signal output terminal.

12. IC6 to IC8 on the Digital Process Board are using the 8-Bit A/D Converter IC YWCX1175AM.

Description of this IC is as follows:



Pin	Name	I/O	Description
1	\overline{OE}	I	Output Enable signal input terminal.
2	DVSS	-	Ground terminal for Digital Circuit.
3	D0	O	Digital Data D0 (LSB) output terminal.
4	D1	O	Digital Data D1 (2nd.) output terminal.
5	D2	O	Digital Data D2 (3rd.) output terminal.
6	D3	O	Digital Data D3 (4th.) output terminal.
7	D4	O	Digital Data D4 (5th.) output terminal.
8	D5	O	Digital Data D5 (6th.) output terminal.
9	D6	O	Digital Data D6 (7th.) output terminal.
10	D7	O	Digital Data D7 (MSB) output terminal.
11	DVDD	-	Power supply terminal for Digital Circuit.
12	CLOCK	I	Clock input terminal.
13	DVDD	-	Power supply terminal for Digital Circuit.
14	AVDD	-	Power supply terminal for Analog Circuit.
15	AVDD	-	Power supply terminal for Analog Circuit.
16	VRTS	O	Top Voltage output terminal.
17	VRT	I	Top Voltage input terminal.
18	AVDD	-	Power supply terminal for Analog Circuit.
19	VIN	I	Analog signal input terminal.
20	AVSS	-	Ground terminal for Analog Circuit.
21	AVSS	-	Ground terminal for Analog Circuit.
22	VRBS	O	Bottom Voltage output terminal.
23	VRB	I	Bottom Voltage input terminal.
24	AVSS	-	Ground terminal for Digital Circuit.

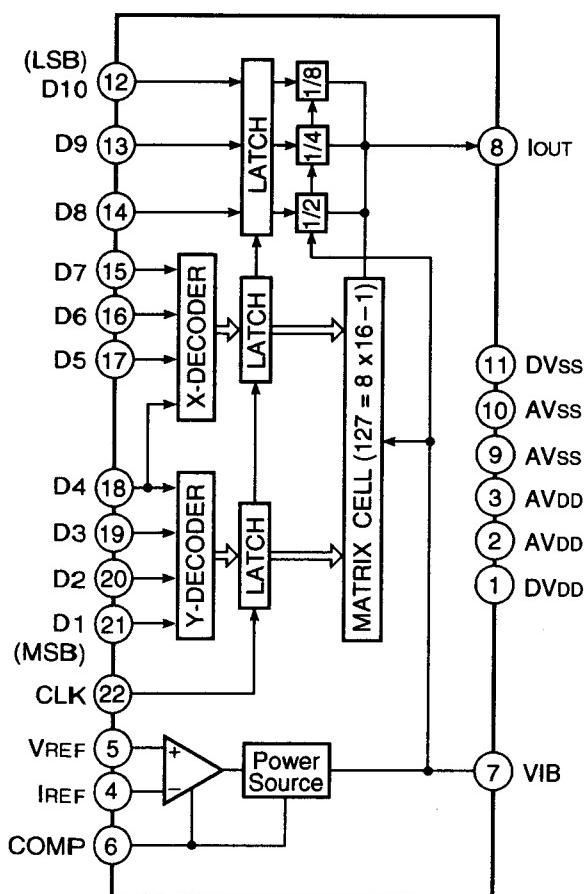
13. IC17 to IC20 on the Digital Process Board are using the 10-Bit D/A Converter IC MN6557AS.

Description of this IC is as follows:

DVDD	1	22	CLK
AVDD	2	21	DB1
AVDD	3	20	DB2
IREF	4	19	DB3
VREF	5	18	DB4
COMP	6	17	DB5
VIB	7	16	DB6
IO	8	15	DB7
AVss	9	14	DB8
AVss	10	13	DB9
DVss	11	12	DB10

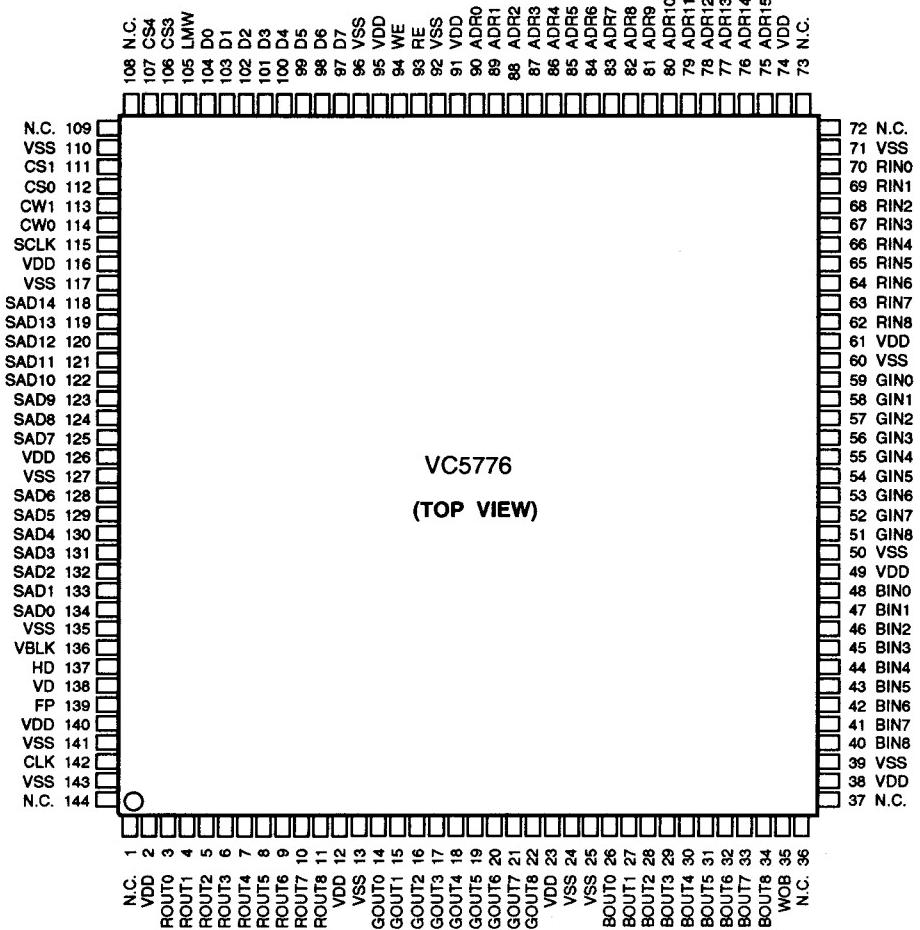
(TOP VIEW)

Pin	Name	I/O	Description
1	DVDD	-	Power supply terminal for Digital circuit.
2	AVDD	-	Power supply terminal for Analog circuit.
3	AVDD	-	Power supply terminal for Analog circuit.
4	IREF	I	Reference Current input terminal.
5	VREF	I	Reference Voltage input terminal.
6	COMP	I	Compensation input terminal.
7	VIB	I	VIB signal input terminal.
8	IO	O	Analog Data Current output terminal.
9	AVss	-	Ground terminal for Analog Circuit.
10	AVss	-	Ground terminal for Analog Circuit.
11	DVss	-	Ground terminal for Digital Circuit.
12	DB10	I	(LSB)
13	DB9	I	
14	DB8	I	
15	DB7	I	
16	DB6	I	
17	DB5	I	
18	DB4	I	
19	DB3	I	
20	DB2	I	
21	DB1	I	(MSB)
22	CLK	I	Clock Pulse input terminal.



14. IC1 on the Digital Process Board is using the Gate Array Logic IC YWVC5776.

Description of this IC is as follows:



Pin	Name	I/O	Description
1	N.C.	-	Non Connection.
2	VDD	-	Power supply terminal for I/O.
3	ROUT0	O	(LSB)
4	ROUT1	O	
5	ROUT2	O	
6	ROUT3	O	
7	ROUT4	O	
8	ROUT5	O	
9	ROUT6	O	
10	ROUT7	O	
11	ROUT8	O	(MSB)
12	VDD	-	Power supply terminal for I/O.
13	VSS	-	Ground terminal for I/O.
14	GOUT0	O	(LSB) G12 signal output terminals. (9-Bit)

Pin	Name	I/O	Description
15	GOUT1	O	
16	GOUT2	O	
17	GOUT3	O	
18	GOUT4	O	
19	GOUT5	O	
20	GOUT6	O	
21	GOUT7	O	
22	GOUT8	O	(MSB)
23	VDD	-	Power supply terminal for Core.
24	VSS	-	Ground terminal for Core.
25	VSS	-	Ground terminal for I/O.
26	BOUT0	O	(LSB)
27	BOUT1	O	
28	BOUT2	O	

G12 signal output terminals. (9-Bit)

B12 signal output terminals. (9-Bit)

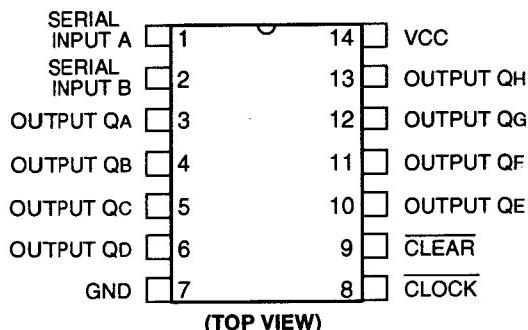
Pin	Name	I/O	Description
29	BOUT3	O	
30	BOUT4	O	
31	BOUT5	O	
32	BOUT6	O	
33	BOUT7	O	
34	BOUT8	O	(MSB)
35	WOB	O	WOB signal output terminal.
36	N.C.	-	Non Connection.
37	N.C.	-	Non Connection.
38	VDD	-	Power supply terminal for I/O.
39	VSS	-	Ground terminal for I/O.
40	BIN8	I	(MSB)
41	BIN7	I	
42	BIN6	I	
43	BIN5	I	
44	BIN4	I	
45	BIN3	I	
46	BIN2	I	
47	BIN1	I	
48	BIN0	I	(LSB)
49	VDD	-	Power supply terminal for I/O.
50	VSS	-	Ground terminal for I/O.
51	GIN8	I	(MSB)
52	GIN7	I	
53	GIN6	I	
54	GIN5	I	
55	GIN4	I	
56	GIN3	I	
57	GIN2	I	
58	GIN1	I	
59	GIN0	I	(LSB)
60	VSS	-	Ground terminal for Core.
61	VDD	-	Power supply terminal for Core.
62	RIN8	I	(MSB)
63	RIN7	I	
64	RIN6	I	
65	RIN5	I	
66	RIN4	I	
67	RIN3	I	
68	RIN2	I	
69	RIN1	I	
70	RIN0	I	(LSB)
71	VSS	-	Ground terminal for I/O.
72	N.C.	-	Non Connection.
73	N.C.	-	Non Connection.
74	VDD	-	Power supply terminal for I/O.
75	ADR15	I	(MSB)
76	ADR14	I	
77	ADR13	I	
78	ADR12	I	

Pin	Name	I/O	Description
79	ADR11	I	
80	ADR10	I	
81	ADR9	I	
82	ADR8	I	
83	ADR7	I	
84	ADR6	I	
85	ADR5	I	
86	ADR4	I	
87	ADR3	I	
88	ADR2	I	
89	ADR1	I	
90	ADR0	I	(LSB)
91	VDD	-	Power supply terminal for Core.
92	VSS	-	Ground terminal for Core.
93	WE	I	Write enable signal input terminal.
94	RE	I	Read enable signal input terminal.
95	VDD	-	Power supply terminal for I/O.
96	VSS	-	Ground terminal for I/O.
97	D7	I/O	(MSB)
98	D6	I/O	
99	D5	I/O	
100	D4	I/O	
101	D3	I/O	
102	D2	I/O	
103	D1	I/O	
104	D0	I/O	(LSB)
105	LMW	O	LMW signal output terminal.
106	CS3	O	CS3 signal output terminal.
107	CS4	O	CS4 signal output terminal.
108	N.C.	-	Non Connection.
109	N.C.	-	Non Connection.
110	VSS	-	Ground terminal for I/O.
111	CS1	O	CS1 signal output terminal.
112	CS0	O	CS0 signal output terminal.
113	CW1	O	CW1 signal output terminal.
114	CW0	O	CW0 signal output terminal.
115	SCLK	O	SCLK Pulse output terminal.
116	VDD	-	Power supply terminal for Core.
117	VSS	-	Ground terminal for Core.
118	SAD14	O	(MSB)
119	SAD13	O	
120	SAD12	O	
121	SAD11	O	
122	SAD10	O	
123	SAD9	O	
124	SAD8	O	
125	SAD7	O	
126	VDD	-	Power supply terminal for I/O.

Pin	Name	I/O	Description
127	VDD	-	Power supply terminal for I/O.
128	SAD6	O	
129	SAD5	O	
130	SAD4	O	
131	SAD3	O	
132	SAD2	O	
133	SAD1	O	
134	SAD0	O	(LSB) SAD signal output terminals. (15-Bit)
135	VSS	-	Ground terminal for I/O.
136	VBLK	I	VBLK signal input terminal.
137	HD	I	HD signal input terminal.
138	VD	I	VD signal input terminal.
139	FP	I	FP signal input terminal.
140	VDD	-	Power supply terminal for I/O.
141	VSS	-	Ground terminal for I/O.
142	CLK	I	CLK Pulse input terminal.
143	VSS	-	Ground terminal for I/O.
144	N.C.	-	Non connection.

15. IC10 on the Digital Process Board is using the 8-Bit Shift Register IC YWHD74AC164F.

Description of this IC is as follows:



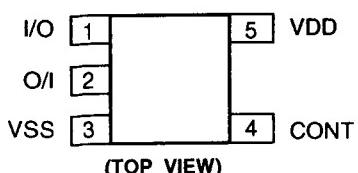
Truth Table

INPUTS		Function
CLEAR	CLOCK	
H	L f	Right Shift
L	*	Clear

* : Don't care.

16. IC21 on the Digital Process Board and IC6 on the Sync Board are using the Single Analog Switch/Multiplexer/Demultiplexer IC YWTC4S66FR.

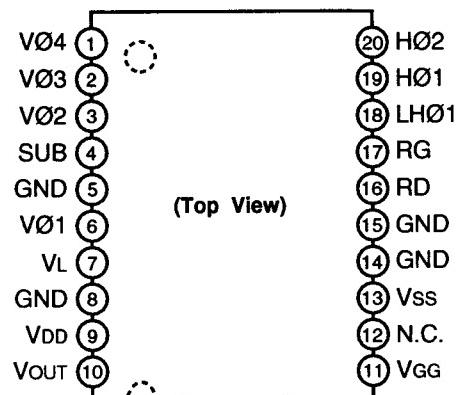
Description of this IC is as follows:



Truth Table

Input	Switch
Control	I/O - O/I
L	OFF
H	ON

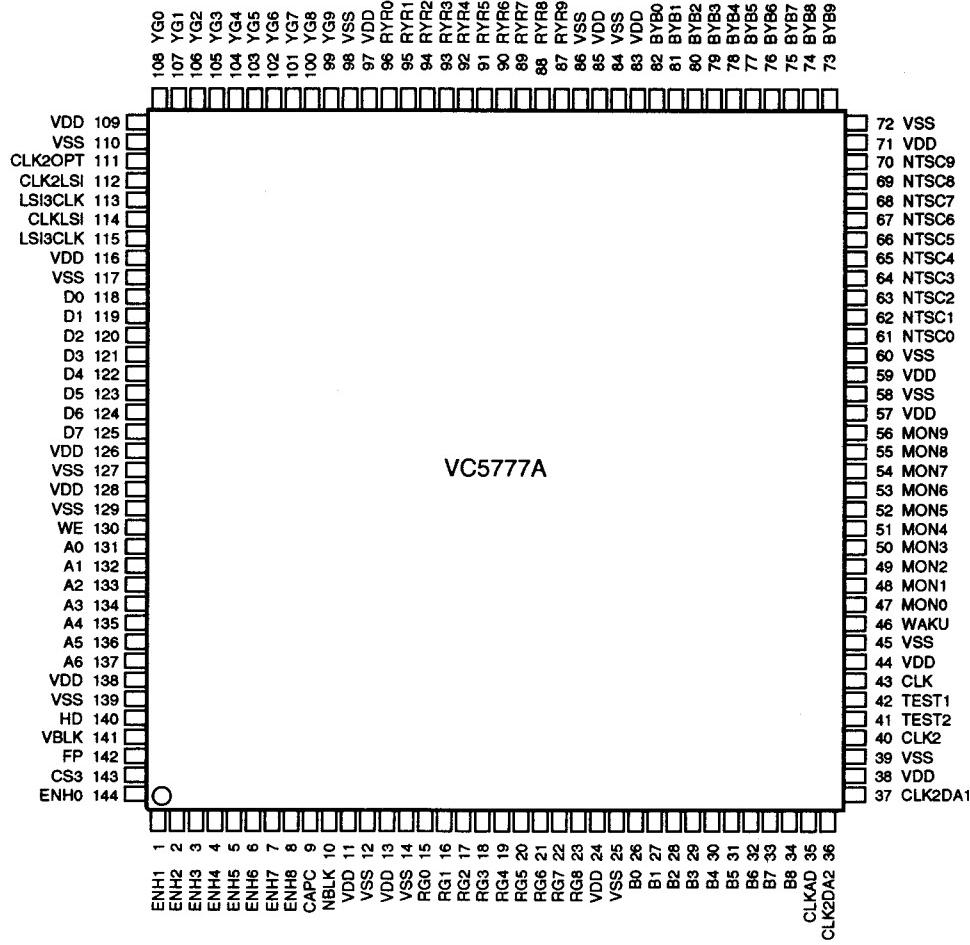
17. IC101, IC201 and IC301 on the Sensor Board are using the CCD Image Sensor IC ICX038BLA. Description of this IC is as follows:



Pin	Name	I/O	Description
1	Vø4	I	Vertical Register Transfer Clock input terminal.
2	Vø3	I	Vertical Register Transfer Clock input terminal.
3	Vø2	I	Vertical Register Transfer Clock input terminal.
4	SUB	-	Board (Overflow Drain).
5	GND	-	Ground terminal.
6	Vø1	I	Vertical Register Transfer Clock input terminal.
7	VL	I	Bias supply terminal for protection transistor.
8	GND	-	Ground terminal.
9	VDD	-	Power supply terminal for Drain Output Amp.
10	VOUT	O	Signal output terminal.
11	VGG	-	Gate bias supply terminal for Output Amp.
12	N.C.	-	Non connection.
13	Vss	-	Power supply terminal for Source Output Amp.
14	GND	-	Ground terminal.
15	GND	-	Ground terminal.
16	RD	I	Reset Drain Bias input terminal.
17	RG	I	Reset Gate Clock input terminal.
18	LHØ1	I	Transfer Clock input terminal for last stage of Horizontal register.
19	HØ1	I	Horizontal Register Transfer Clock input terminal.
20	HØ2	I	Horizontal Register Transfer Clock input terminal.

18. IC3 on the Digital Process Board is using the Gate Array Logic IC YWVC5777A.

Description of this IC is as follows:



(TOP VIEW)

Pin	Name	I/O	Description
1	ENH1	I	
2	ENH2	I	
3	ENH3	I	
4	ENH4	I	
5	ENH5	I	
6	ENH6	I	
7	ENH7	I	
8	ENH8	I	(MSB)
9	CAPC	I	CAPC signal input terminal.
10	NBLK	I	NBLK signal input terminal.
11	VDD	-	Power supply terminal for I/O.
12	VSS	-	Ground terminal for I/O.
13	VDD	-	Power supply terminal for Core.
14	VSS	-	Ground terminal for Core.

Pin	Name	I/O	Description
15	RG0	I	(LSB)
16	RG1	I	
17	RG2	I	
18	RG3	I	
19	RG4	I	
20	RG5	I	
21	RG6	I	
22	RG7	I	
23	RG8	I	(MSB)
24	VDD	-	Power supply terminal br I/O.
25	VSS	-	Ground terminal for I/O
26	B0	I	(LSB)
27	B1	I	B23 signal input terminals. (9-bit)
28	B2	I	

Pin	Name	I/O	Description
29	B3	I	B23 signal input terminals. (9-Bit)
30	B4	I	
31	B5	I	
32	B6	I	
33	B7	I	
34	B8	I	
35	CLKAD	O	
36	CLK2DA2	O	
37	CLK2DA1	O	
38	VDD	-	
39	VSS	-	Monitor signal output terminals. (10-Bit)
40	CLK2	O	
41	TEST2	I	
42	TEST1	I	
43	CLK	O	
44	VDD	-	
45	VSS	-	
46	WAKU	O	
47	MON0	O	
48	MON1	O	
49	MON2	O	NTSC signal output terminals. (10-Bit)
50	MON3	O	
51	MON4	O	
52	MON5	O	
53	MON6	O	
54	MON7	O	
55	MON8	O	
56	MON9	O	
57	VDD	-	
58	VSS	-	
59	VDD	-	BYB signal output terminals. (10-Bit)
60	VSS	-	
61	NTSC0	O	
62	NTSC1	O	
63	NTSC2	O	
64	NTSC3	O	
65	NTSC4	O	
66	NTSC5	O	
67	NTSC6	O	
68	NTSC7	O	
69	NTSC8	O	
70	NTSC9	O	
71	VDD	-	Data input terminals. (8-Bit)
72	VSS	-	
73	BYB9	O	
74	BYB8	O	
75	BYB7	O	
76	BYB6	O	
77	BYB5	O	
78	BYB4	O	

Pin	Name	I/O	Description
79	BYB3	O	(LSB)
80	BYB2	O	
81	BYB1	O	
82	BYB0	O	
83	VDD	-	
84	VSS	-	
85	VDD	-	
86	VSS	-	
87	RYR9	O	
88	RYR8	O	
89	RYR7	O	RYR signal output terminals. (10-Bit)
90	RYR6	O	
91	RYR5	O	
92	RYR4	O	
93	RYR3	O	
94	RYR2	O	
95	RYR1	O	
96	RYR0	O	
97	VDD	-	
98	VSS	-	
99	YG9	O	(MSB)
100	YG8	O	
101	YG7	O	
102	YG6	O	
103	YG5	O	
104	YG4	O	
105	YG3	O	
106	YG2	O	
107	YG1	O	
108	YG0	O	
109	VDD	-	(LSB)
110	VSS	-	
111	CLK2OPT	O	
112	CLK2LSI	O	
113	LSI3CLK2	I	
114	CLKLSI	O	
115	LSI3CLK	I	
116	VDD	-	
117	VSS	-	
118	D0	I	
119	D1	I	(MSB)
120	D2	I	
121	D3	I	
122	D4	I	
123	D5	I	
124	D6	I	
125	D7	I	
126	VDD	-	
127	VSS	-	(MSB)
128	VDD	-	

Pin	Name	I/O	Description
129	VSS	-	Ground terminal for I/O.
130	WE	I	Write enable signal input terminal.
131	ADR0	I	(LSB)
132	ADR1	I	
133	ADR2	I	
134	ADR3	I	
135	ADR4	I	
136	ADR5	I	
137	ADR6	I	(MSB)
138	VDD	-	Power supply terminal for I/O.
139	VSS	-	Ground terminal for I/O.
140	HD	I	HD signal input terminal.
141	VBLK	I	VBLK signal input terminal.
142	FP	I	FP signal input terminal.
143	CS3	I	CS3 signal input terminal.
144	ENH0	I	(LSB) ENH43 signal input terminals. (9-Bit)

19. IC15 on the Digital Process Board is using the Dual D-FFs with Preset and Clear IC YWTC74AC74F.

Description of this IC is as follows:

1CLR	<input type="checkbox"/>	1	<input type="checkbox"/>	14	<input type="checkbox"/>	VCC
1D	<input type="checkbox"/>	2	<input type="checkbox"/>	13	<input type="checkbox"/>	2CLR
1CK	<input type="checkbox"/>	3	<input type="checkbox"/>	12	<input type="checkbox"/>	2D
1PR	<input type="checkbox"/>	4	<input type="checkbox"/>	11	<input type="checkbox"/>	2CK
1Q	<input type="checkbox"/>	5	<input type="checkbox"/>	10	<input type="checkbox"/>	2PR
1Q	<input type="checkbox"/>	6	<input type="checkbox"/>	9	<input type="checkbox"/>	2Q
GND	<input type="checkbox"/>	7	<input type="checkbox"/>	8	<input type="checkbox"/>	2Q

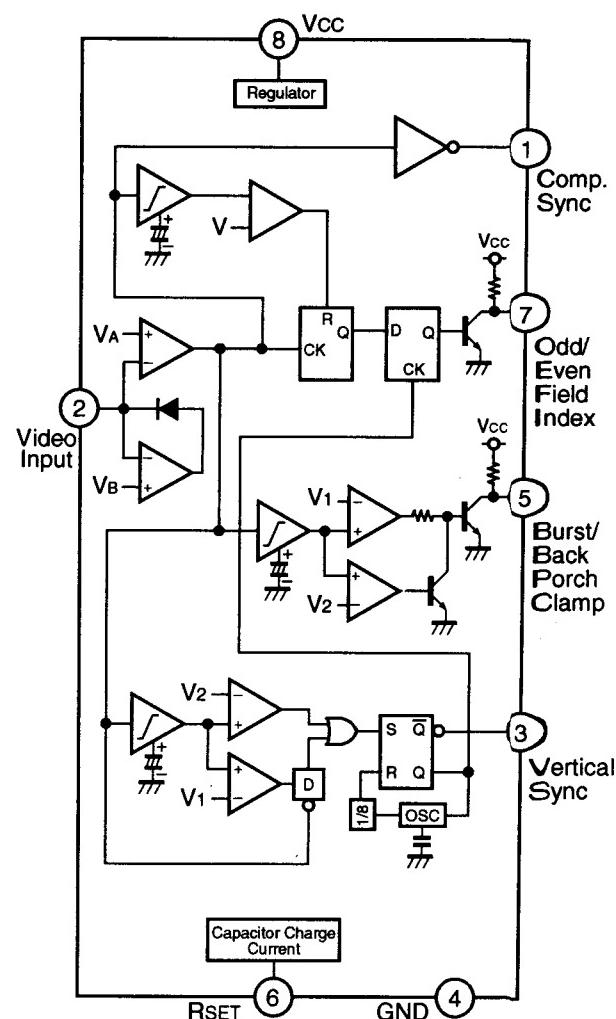
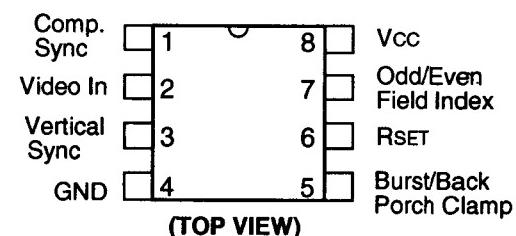
Truth Table

INPUTS				OUTPUTS		Function
CLR	PR	D	CK	Q	\bar{Q}	
L	H	*	*	L	H	Clear
H	L	*	*	H	L	Preset
L	L	*	*	H	H	—
H	H	L	↓	L	H	—
H	H	H	↓	H	L	—
H	H	*	↓	Qn	$\bar{Q}n$	No Change

* : Don't care.

20. IC11 on the Sync Board is using the Sync Separator IC YWLM1881M.

Description of this IC is as follows:



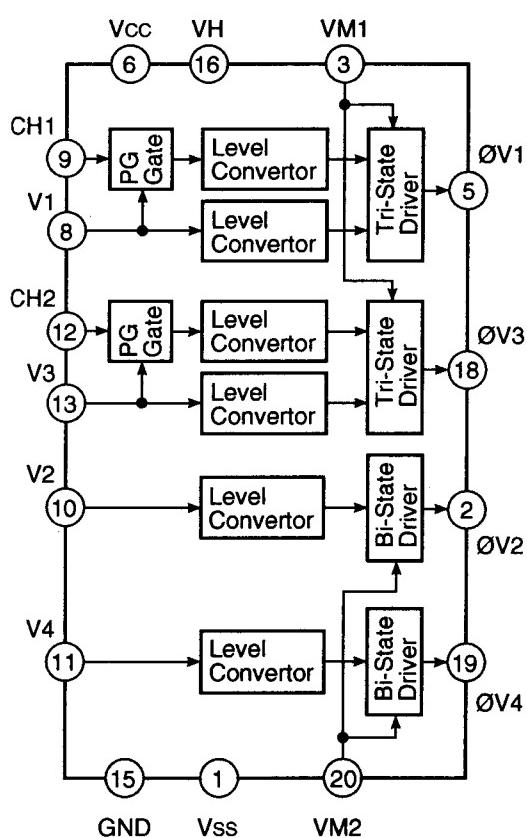
21. IC2 on the Sensor Board is using the Vertical Driver IC YWUPD16502GS.

Description of this IC is as follows:

Vss	1	20	VM2
ØV2	2	19	ØV4
VM1	3	18	ØV3
N.C.	4	17	N.C.
ØV1	5	16	VH
Vcc	6	15	GND
N.C.	7	14	N.C.
V1	8	13	V3
CH1	9	12	CH2
V2	10	11	V4

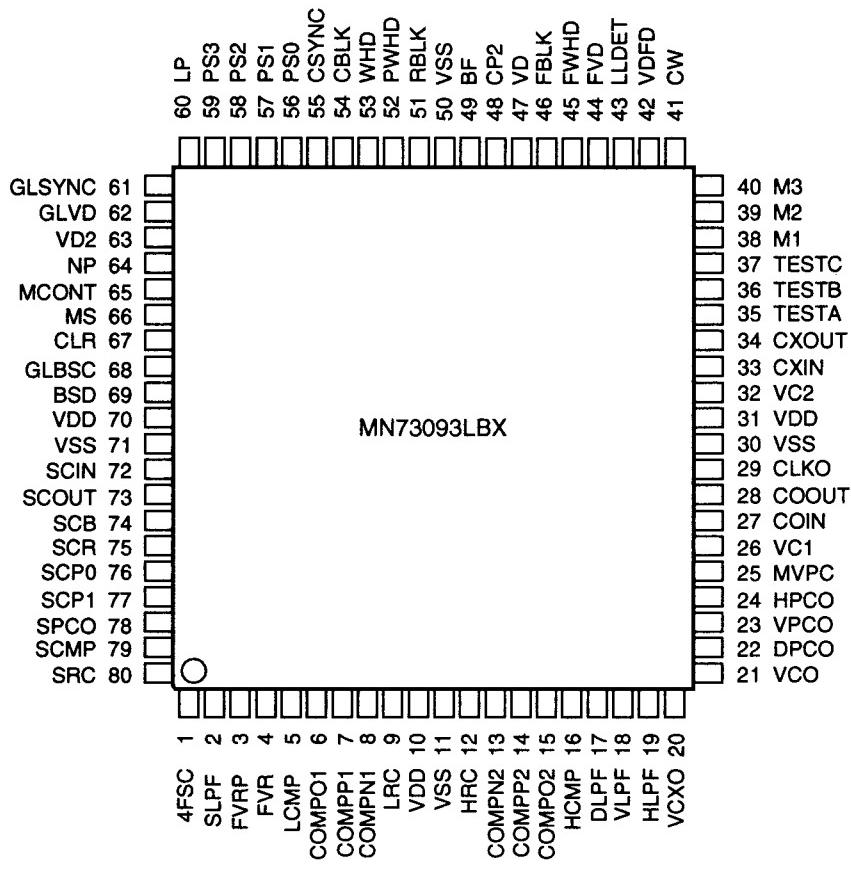
(TOP VIEW)

Pin	Name	I/O	Description
1	VSS	-	Negative Voltage supply terminal.
2	ØV2	O	Bi-State output terminal 1.
3	VM1	-	Middle Voltage supply terminal for Tri-State Drivers.
4	N.C.	-	Non Connection.
5	ØV1	O	Tri-State input terminal 1.
6	Vcc	-	Power supply for input circuit section.
7	N.C.	-	Non Connection.
8	V1	I	Tri-State input terminal 1.
9	CH1	I	Photodiode Gate input terminal 1.
10	V2	I	Bi-State input terminal 1.
11	V4	I	Bi-State input terminal 2.
12	CH2	I	Photodiode Gate input terminal 2.
13	V3	I	Tri-State input terminal 2.
14	N.C.	-	Non Connection.
15	GND	-	Ground terminal.
16	VH	-	High Voltage supply terminal for Tri-State Drivers.
17	N.C.	-	Non Connection.
18	ØV3	O	Tri-State input terminal 2.
19	ØV4	O	Bi-State output terminal 2.
20	VM2	-	Middle Voltage supply terminal for Bi-State Drivers.



22. IC3 on the Sync Board is using the Sync Generator IC MN73093LBX.

Description of this IC is as follows:



(TOP VIEW)

Pin	Name	I/O	Description
1	4FSC	O	4FSC Signal output terminal.
2	SLPF	I	SLPF signal input terminal.
3	FVRP	I	FVRP signal input terminal.
4	FVR	I	FVR signal input terminal.
5	LCMP	I	LCMP signal input terminal.
6	COMPO1	O	COMPO1 signal output terminal.
7	COMPP1	O	COMPP1 signal output terminal.
8	COMPNI	O	COMPNI signal output terminal.
9	LRC	O	LRC signal output terminal.
10	VDD	-	+5V supply terminal.
11	VSS	-	Ground terminal.

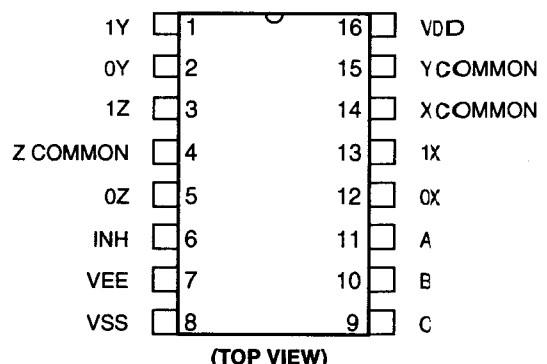
Pin	Name	I/O	Description
12	HRC	O	HRC signal output terminal.
13	COMPNI	O	COMPNI signal output terminal.
14	COMPP2	O	COMPP2 signal output terminal.
15	COMPO2	O	COMPO2 signal output terminal.
16	HCMP	I	HCMP signal input terminal.
17	DLPF	I	DLPF signal input terminal.
18	VLPF	I	VLPF signal input terminal.
19	HLPF	I	HLPF signal input terminal.
20	VCXO	O	VCXO signal output terminal.
21	VCO	O	VCO signal output terminal.
22	DPCO	O	DPCO signal output terminal.

Pin	Name	I/O	Description
23	VPCO	O	VPCO signal input terminal.
24	HPCO	O	HPCO signal input terminal.
25	MVPC	I	MVPC signal input terminal.
26	VC1	O	VC1 signal input terminal.
27	COIN	I	COIN signal input terminal.
28	COOUT	O	COOUT signal output terminal.
29	CLKO	O	CLKO signal output terminal.
30	VSS	-	Ground terminal.
31	VDD	-	+5V supply terminal.
32	VC2	O	VC2 signal input terminal.
33	CXIN	I	CXIN signal input terminal.
34	CXOUT	O	CXOUT signal output terminal.
35	TESTA	I	TESTA signal input terminal.
36	TESTB	I	TESTB signal input terminal.
37	TESTC	I	TESTC signal input terminal.
38	M1	I/O	M1 signal in/out terminal.
39	M2	I/O	M2 signal in/out terminal.
40	M3	I/O	M3 signal in/out terminal.
41	CW	I	CW signal input terminal.
42	VDFD	I	VDFD signal input terminal.
43	LLDET	I	LLDET signal input terminal.
44	FVD	O	FVD signal output terminal.
45	FWHD	O	FWHD signal output terminal.
46	FBLK	O	FBLK signal output terminal.
47	VD	O	VD signal output terminal.
48	CP2	O	CP2 signal output terminal.
49	BF	O	BF signal output terminal.
50	VSS	-	Ground terminal.
51	RBLK	I	RBLK signal input terminal.
52	PWHD	I	PWHD signal input terminal.
53	WHD	O	WHD signal output terminal.
54	CBLK	O	CBLK signal output terminal.
55	CSYNC	O	CSYNC signal output terminal.
56	PS0	I	PS0 signal output terminal.
57	PS1	I	PS1 signal output terminal.
58	PS2	I	PS2 signal output terminal.
59	PS3	I	PS3 signal output terminal.
60	LP	I	LP signal output terminal.
61	GLSYNC	I	GLSYNC signal output terminal.
62	GLVD	I	GLVD signal input terminal.
63	VD2	I	VD2 signal input terminal.

Pin	Name	I/O	Description
64	NP	I	NTSC/PAL switching signal input terminal. H = NTSC L = PAL
65	MCONT	I	MCONT signal input terminal.
66	MS	I	MS signal input terminal.
67	CLR	I	CLR signal output terminal.
68	GLBSC	I	GLBSC signal output terminal.
69	BSD	I	BSD signal output terminal.
70	VDD	-	+5V supply terminal.
71	VSS	-	Ground terminal.
72	SCIN	I	SCIN signal input terminal.
73	SCOUT	O	SCOUT signal output terminal.
74	SCBO	O	SCBO signal output terminal.
75	SCRO	O	SCRO signal output terminal.
76	SCP0	I	SCP0 signal input terminal.
77	SCP1	I	SCP1 signal input terminal.
78	SPCO	O	SPCO signal output terminal.
79	SCMP	I	SCMP signal output terminal.
80	SRC	O	SRC signal output terminal.

23. IC5 on the Preamp/Encoder Board, IC102, IC202 and IC302 on the Preprocess Board, IC1 on the Rear Board are using the Triple 2-ch Analog Multiplexer/Demultiplexer IC YWUPD4053BG.

Description of this IC is as follows:



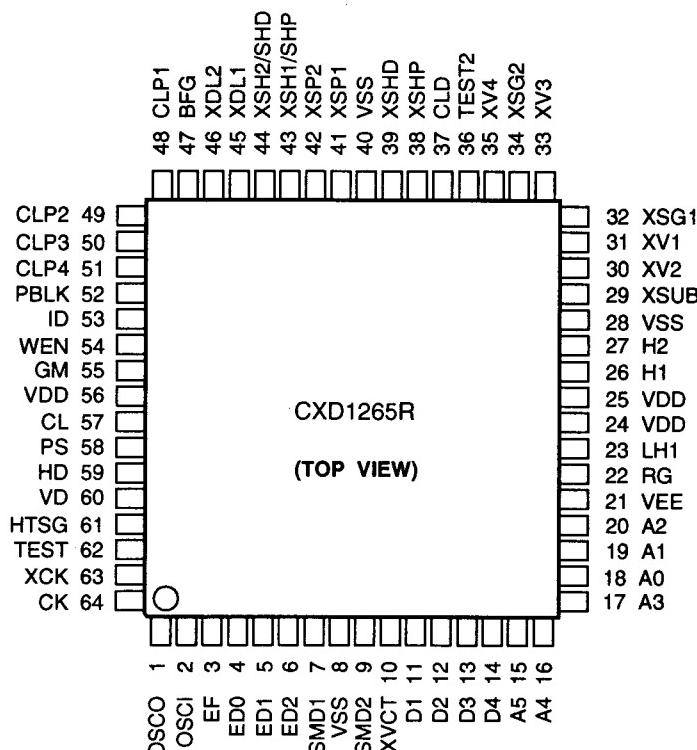
Truth Table

INHIBIT	C	B	A	X COMMON	Y COMMON	Z COMMON
L	L	L	L	0X	0Y	0Z
L	L	L	H	1X	0Y	0Z
L	L	H	L	0X	1Y	0Z
L	L	H	H	1X	1Y	0Z
L	H	L	L	0X	0Y	1Z
L	H	L	H	1X	0Y	1Z
L	H	H	L	0X	1Y	1Z
L	H	H	H	1X	1Y	1Z
H	*	*	*	NONE	NONE	NONE

* : Don't care.

24. IC9 on the Drive Board is using the Timing Generator IC YWCXD1265R.

Description of this IC is as follows:



Pin	Name	I/O	Description
1	OSCO	O	Oscillation Inverter output terminal.
2	OSCI	I	Oscillation Inverter input terminal.
3	EF	I	Error Correction System Selecting signal input terminal. H = External ROM L = Serial signal from microprocessor
4	ED0	I	Shutter Speed Set signal input terminal. Strobe input terminal when Serial mode.
5	ED1	I	Shutter Speed Set signal input terminal. Clock input terminal when Serial mode.
6	ED2	I	Shutter Speed Set signal input terminal. Data input terminal when Serial mode.
7	SMD1	I	Shutter Mode Set signal input terminal.

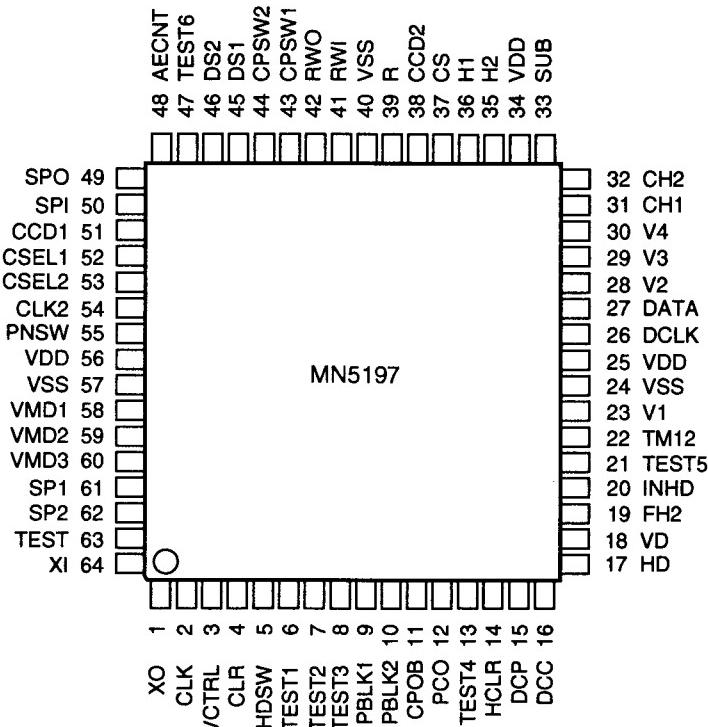
Pin	Name	I/O	Description
8	VSS	-	Ground terminal.
9	SMD2	I	Shutter Mode Set signal input terminal.
10	XVCT	O	Power Control signal output terminal for external ROM.
11	D1	I	Data input terminal when using external ROM. Not using external ROM; L = without Error Correction H = with Error Correction
12	D2	I	Data input terminal when using external ROM. Not using external ROM; L = Color H = Black and White
13	D3	I	Data input terminal when using external ROM. Not using external ROM; fixed at Low.
14	D4	I	Data input terminal when using external ROM. Not using external ROM; L = NTSC H = PAL

Pin	Name	I/O	Description
15	A5	O	Address output terminal for external ROM.
16	A4	O	Address output terminal for external ROM.
17	A3	O	Address output terminal for external ROM.
18	A0	O	Address output terminal for external ROM.
19	A0	O	Address output terminal for external ROM.
20	A0	O	Address output terminal for external ROM.
21	VEE	-	Ground terminal.
22	RG	O	Reset Gate signal output terminal.
23	LH1	O	Clock output terminal for last stage of CCD Horizontal Register.
24	VDD	-	Power supply terminal.
25	VDD	-	Power supply terminal for H1 and H2 circuits.
26	H1	O	Clock output terminal for CCD Horizontal Register Drive.
27	H2	O	Clock output terminal for CCD Horizontal Register Drive.
28	Vss	-	Ground terminal for H1 and H2 circuit.
29	XSUB	O	CCD Charge Clear Pulse output terminal.
30	XV2	O	Clock output terminal for CCD Vertical Register Drive.
31	XV1	O	Clock output terminal for CCD Vertical Register Drive.
32	XSG1	O	CCD Sensor Charge Read Out Pulse output terminal.
33	XV3	O	Clock output terminal for CCD Vertical Register Drive.
34	XSG2	O	CCD Sensor Charge Read Out Pulse output terminal.
35	XV4	O	Clock output terminal for CCD Vertical Register Drive.
36	TEST2	I	Test input terminal; Normally fixed at Low.
37	CLD	O	4fsc Clock output terminal.
38	XSHP	O	Pre-Charge Level Sample and Hold Pulse output terminal.
39	XSHD	O	Data Sample and Hold Pulse output terminal.
40	Vss	-	Ground terminal.
41	XSP1	O	Chroma Separation Sample and Hold Pulse output terminal. Stop at Black and White mode.
42	XSP2	O	Chroma Separation Sample and Hold Pulse output terminal. Stop at Black and White mode.

Pin	Name	I/O	Description
43	XSH1/ SHP	O	Switching Sample and Hold Pulse/Pre-Charge Level Sample and Hold Pulse (Black and White mode) output terminal.
44	XSH2/ SHP	O	Switching Sample and Hold Pulse/Pre-Charge Level Sample and Hold Pulse (Black and White mode) output terminal.
45	XDL1	O	Clock output terminal for Delay Line. Stop at Black and White mode.
46	XDL2	O	Clock output terminal for Delay Line. Stop at Black and White mode.
47	BFG	O	Encoder Chroma Modulator Pulse output terminal. Error Position Pointer Pulse when GM = High. Stop at Black and White mode.
48	CLP1	O	Clamp signal output terminal.
49	CLP2	I/O	Clamp signal output terminal. Standby Mode Switching signal input terminal when GM = High.
50	CLP3	I/O	Clamp signal output terminal. Standby Mode Switching signal input terminal when GM = High.
51	CLP4	O	Clamp signal output terminal.
52	PBLK	O	Pre-Blanking Pulse output terminal.
53	ID	O	Line Identification signal output terminal.
54	WEN	O	Write Enable signal output terminal (only when slow speed shutter).
55	GM	I	H = Digital Signal Process L = Analog Signal Process
56	VDD	-	Power supply terminal.
57	CL	O	4fsc Clock output terminal.
58	PS	I	Electronic Shutter Speed mode switching signal input terminal. H = Parallel Input L = Serial Input
59	HD	I	Horizontal Sync signal input terminal.
60	VD	I	Vertical Sync signal input terminal.
61	HTSG	I	XSG1, 2 Control signal input terminal. H = XSG1, 2 generate L = XSG1, 2 stop
62	TEST	I	Test signal input terminal.
63	XCK	O	8fsc Clock output terminal.
64	CK	I	8fsc Clock input terminal.

25. IC3 on the Drive Board is using the 1/3" 510/670/768H CCD Driver with Phase Comparator IC MN5197.

Description of this IC is as follows:



(TOP VIEW)

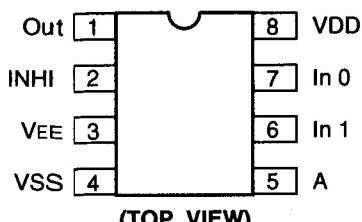
Pin	Name	I/O	Description
1	XO	O	Oscillator output terminal.
2	CLK	O	CLK signal output terminal.
3	VCTRL	I	VCTRL signal input terminal.
4	CLR	I	CLR signal input terminal.
5	HDSW	I	HDSW signal input terminal.
6	TEST1	I	Test terminal.
7	TEST2	I	Test terminal.
8	TEST3	I	Test terminal.
9	PBLK1	O	PBLK1 signal output terminal.
10	PBLK2	O	PBLK2 signal output terminal.
11	CPOB	O	CPOB signal output terminal.
12	PCO	O	PCO signal output terminal.
13	TEST4	I	Test terminal.
14	HCLR	O	HCLR signal output terminal.
15	DCP	O	DCP signal output terminal.
16	DCC	O	DCC signal output terminal.

Pin	Name	I/O	Description
17	HD	I	HD signal input terminal.
18	VD	I	VD signal input terminal.
19	FH2	O	FH2 signal output terminal.
20	INHD	O	INHD signal output terminal.
21	TEST5	I	Test terminal.
22	TM12	I	TM12 signal input terminal.
23	V1	O	V1 signal output terminal.
24	VSS	-	Ground terminal.
25	VDD	-	Power supply terminal
26	DCLK	I	DCLK signal input terminal.
27	DATA	I	DATA input terminal.
28	V2	O	V2 signal output terminal.
29	V3	O	V3 signal output terminal.
30	V4	O	V4 signal output terminal.
31	CH1	O	CH1 signal output terminal.
32	CH2	O	CH2 signal output terminal.

Pin	Name	I/O	Description
33	SUB	O	SUB signal output terminal.
34	VDD	-	Power supply terminal.
35	H1	O	H1 signal output terminal.
36	H2	O	H2 signal output terminal.
37	CS	I	CS signal input terminal.
38	CCD2	I	CCD2 signal input terminal.
39	R	O	R signal output terminal.
40	VSS	-	Ground terminal.
41	RWI	I	RWI signal input terminal.
42	RWO	O	RWO signal output terminal.
43	CPSW1	I	CPSW1 signal input terminal.
44	CPSW2	I	CPSW2 signal input terminal.
45	DS1	O	DS1 signal output terminal.
46	DS2	O	DS2 signal output terminal.
47	TEST6	I	Test terminal.
48	AECNT	I	AECNT signal input terminal.
49	SPO	O	SPO signal output terminal.
50	SPI	I	SPI signal input terminal.
51	CCD1	I	CCD1 signal input terminal.
52	CSEL1	I	CSEL1 signal input terminal.
53	CSEL2	I	CSEL2 signal input terminal.
54	CLK2	O	CLK2 signal output terminal.
55	PNSW	I	PNSW signal input terminal.
56	VDD	-	Power supply terminal.
57	VSS	-	Ground terminal.
58	VMD1	I	VMD1 signal input terminal.
59	VMD2	I	VMD2 signal input terminal.
60	VMD3	I	VMD3 signal input terminal.
61	SP1	O	SP1 signal output terminal.
62	SP2	O	SP2 signal output terminal.
63	TEST	I	Test terminal.
64	XI	I	Oscillator input terminal.

26. IC11 on the Preamp/Encoder Board, IC7, IC104, IC 105, IC204, IC205, IC304 and IC305 on the Preprocess Board are using the Single Analog Multiplexer/Demultiplexer IC YWTC4W53FL.

Description of this IC is as follows:



Truth Table

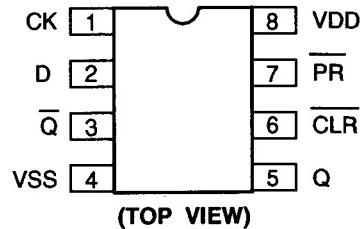
INPUTS		OUT
INHI	A	OUT
L	L	IN 0
L	H	IN 1
H	*	None

*: Don't Care.

27. IC18 on the Drive Board is using the Single D-FF with

Preset and Clear IC YWTC7W74F.

Description of this IC is as follows:



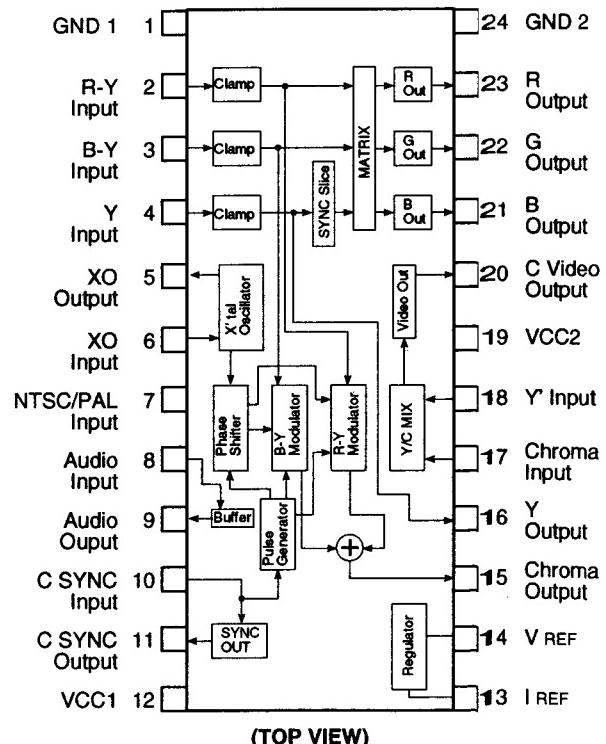
Truth Table

INPUTS				OUTPUTS		Function
CLR	PR	D	CK	Q	\bar{Q}	
L	H	*	*	L	H	Clear
H	L	*	*	H	L	Preset
L	L	*	*	H	H	—
H	H	L	f	L	H	—
H	H	H	f	H	L	—
H	H	*	—	Qn	$\bar{Q}n$	No Change

* : Don't care.

28. IC6 on the Encoder Board is using the Video Encoder IC YWCXA1229M.

Description of this IC is as follows:

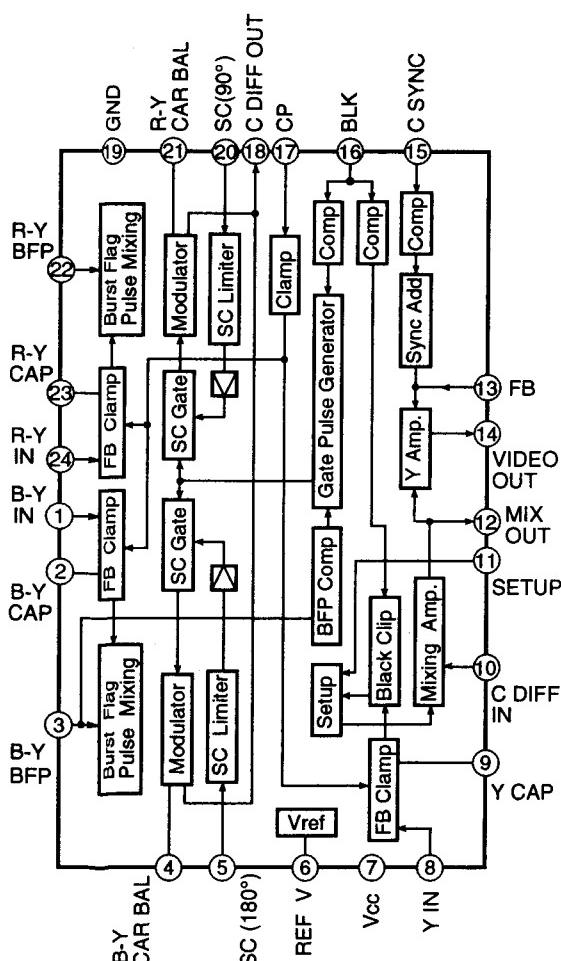


29. IC3 on the Preamp/Encoder Board is using the Chroma Difference Signal Encoder IC YWM51272FP.

Description of this IC is as follows:

B-Y IN	1	24	R-Y IN
B-Y CAP	2	23	R-Y CAP
B-Y BFP	3	22	R-Y BFP
B-Y CAR BAL	4	21	R-Y CAR BAL
SC (180°)	5	20	SC (90°)
REF V	6	19	GND
Vcc	7	18	C DIFF OUT
Y IN	8	17	CP
Y CAP	9	16	BLK
C DIFF IN	10	15	C SYNC
SETUP	11	14	VIDEO OUT
MIX OUT	12	13	FB

(TOP VIEW)



Pin	Name	I/O	Description
1	B-Y IN	I	B-Y signal input terminal.
2	B-Y CAP	-	B-Y Clamp Capacitor connecting terminal.
3	B-Y BFP	I	B-Y Burst Flag Pulse input terminal.
4	B-Y CAR BAL	I	B-Y Carrier Balance adjusting terminal.
5	SC(180°)	I	Subcarrier (180°) input terminal.
6	REF V	-	Reference Voltage terminal.
7	VCC	-	+5V Supply terminal.
8	Y IN	I	Y signal input terminal.
9	Y CAP	-	Y signal Clamp Capacitor connecting terminal.
10	C DIFF IN	I	Chroma Difference signal output terminal.
11	SETUP	I	Setup Level input terminal.
12	MIX OUT	O	Mixing Amp. signal output terminal.
13	FB	I	Video Amp. Feedback terminal.
14	VIDEO OUT	O	Video signal output terminal.
15	C SYNC	I	Composite Sync signal input terminal.
16	BLK	I	Blanking signal input terminal.
17	CP	I	Clamp Pulse input terminal.
18	C DIFF OUT	O	Chroma Difference signal output terminal.
19	GND	-	Ground terminal.
20	SC(90°)	I	Subcarrier (90°) input terminal.
21	R-Y CAR BAL	I	R-Y Carrier Balance adjusting terminal.
22	R-Y BFP	I	R-Y Burst Flag Pulse input terminal.
23	R-Y CAP	-	R-Y signal Clamp Capacitor connecting terminal.
24	R-Y IN	I	R-Y signal input terminal

30. IC5 and IC6 on the Mother Board are using the Single Analog Switch/Multiplexer/Demultiplexer IC T'C4S66 FR.

Description of this IC is as follows:

I/O	1	5	VDD
O/I	2		
VSS	3	4	CONT

(TOP VIEW)

Truth Table	
Input	Switch
Control	I/O — O/I
L	OFF
H	ON

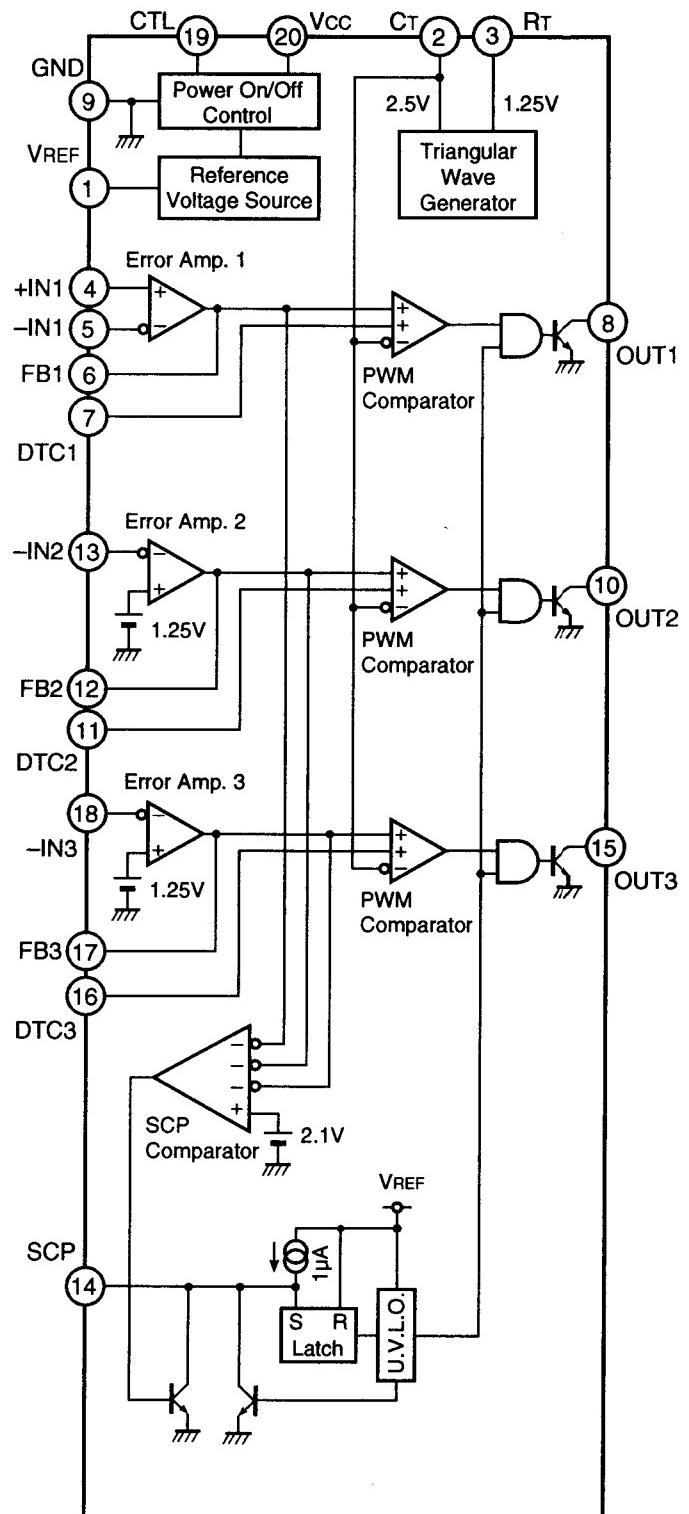
31. IC1 and IC2 on the Power Board is using the Switching Regulator IC YWMB3782PF.

Description of this IC is as follows.

V _{REF}	1	20	V _{CC}
C _T	2	19	C _T
R _T	3	18	-IN3
+IN1	4	17	FB3
-IN1	5	16	DTC3
FB1	6	15	OUT3
DTC1	7	14	SCP
OUT1	8	13	-IN2
GND	9	12	FB2
OUT2	10	11	DTC2

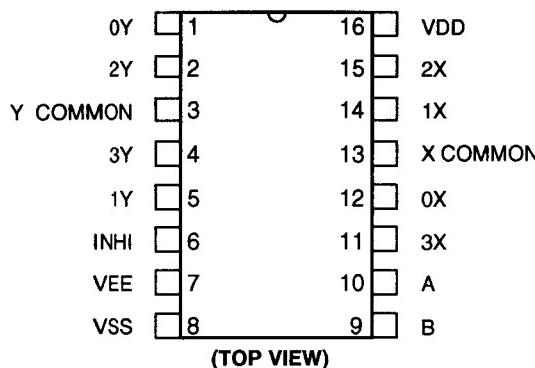
(TOP VIEW)

Pin	Name	I/O	Description
1	V _{REF}	O	Reference Voltage output terminal (2.50V typical).
2	C _T	-	Timing capacitor connecting terminal.
3	R _T	-	Timing resistor connecting terminal.
4	+IN1	I	Non-inverting input terminal for Error Amp. 1.
5	-IN1	I	Inverting input terminal for Error Amp. 1.
6	FB1	-	Feedback terminal for Error Amp. 1.
7	DTC1	I	Dead Time Control 1 signal input terminal.
8	OUT1	O	Open Collector output terminal 1 (50mA maximum).
9	GND	-	Ground terminal.
10	OUT2	O	Open Collector output terminal 2 (50mA maximum).
11	DTC2	I	Dead Time Control 2 signal input terminal.
12	FB2	-	Feedback terminal for Error Amp. 2.
13	-IN2	I	Inverting input terminal for Error Amp. 2.
14	SCP	-	Short Circuit Protection terminal.
15	OUT3	O	Open Collector output terminal 3 (50mA maximum).
16	DTC3	I	Dead Time Control 3 signal input terminal.
17	FB3	-	Feedback terminal for Error Amp. 3.
18	-IN3	I	Inverting input terminal for Error Amp. 3.
19	CTL	I	Power Control terminal.
20	V _{CC}	-	Power Supply terminal.



32. IC8 on the Preamp/Encoder Board is using the Dual 4-ch Analog Multiplexers/Demultiplexers IC YWUPD4052 BG.

Description of this IC is as follows:



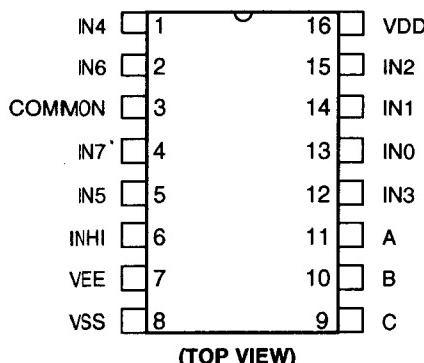
Truth Table

INHIBIT	B	A	X COMMON	Y COMMON
L	L	L	0X	0Y
L	L	H	1X	1Y
L	H	L	2X	2Y
L	H	H	3X	3Y
H	*	*	NONE	NONE

* : Don't care.

33. IC1 on the Mother Board is using the Single 8-ch Analog Multiplexer/Demultiplexer IC YWUPD4051BG.

Description of this IC is as follows:



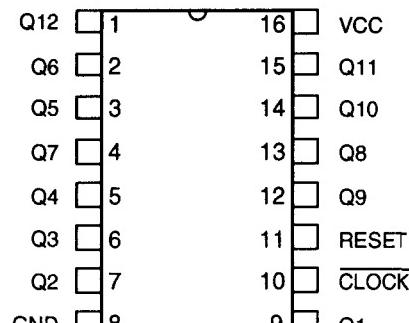
Truth Table

INHIBIT	C	B	A	COMMON
L	L	L	L	IN0
L	L	L	H	IN1
L	L	H	L	IN2
L	L	H	H	IN3
L	H	L	L	IN4
L	H	L	H	IN5
L	H	H	L	IN6
L	H	H	H	IN7
H	*	*	*	NONE

* : Don't care.

34. IC9 on the Mother Board is using the 12-stage Binary Ripple Counter IC MC74HC4040F.

Description of this IC is as follows:



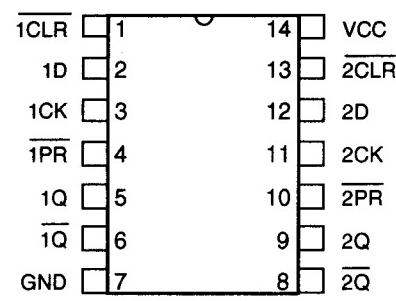
Truth Table

CLOCK	RESET	Qn OUTPUT
*	H	L
↑	L	Don't Count
↓	L	Binary Count

* : Don't care.

35. IC11 on the Mother Board is using the Dual D-FFs with Preset and Clear IC YWMC74HC74AF.

Description of this IC is as follows:



Truth Table

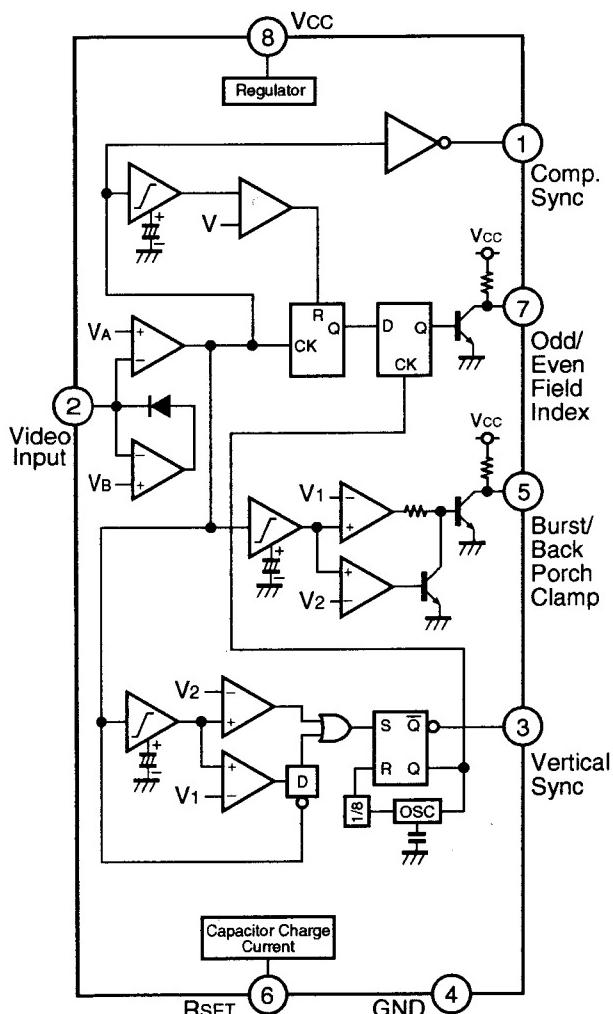
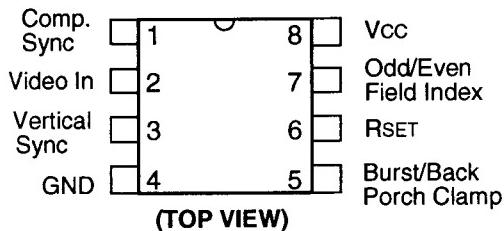
Function	INPUTS				OUTPUTS	
	CLR	PR	D	CK	Q	\bar{Q}
Clear	L	H	*	*	L	H
Preset	H	L	*	*	H	L
—	L	L	*	*	H	H
—	H	H	L	↑	L	H
—	H	H	H	↑	H	L
No Change	H	H	*	↓	Qn	\bar{Q}_n

* : Don't care.

IC Description (WV-PS550)

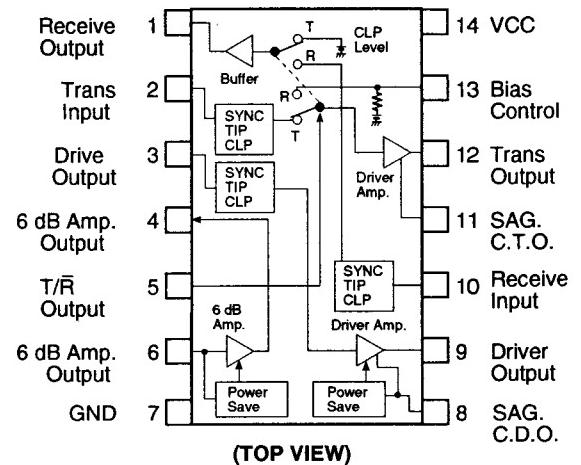
1. IC3 on the Demodulator Board and IC2 on the Modulator Board are using the Sync Separator IC YWLM1881M.

Description of this IC is as follows:



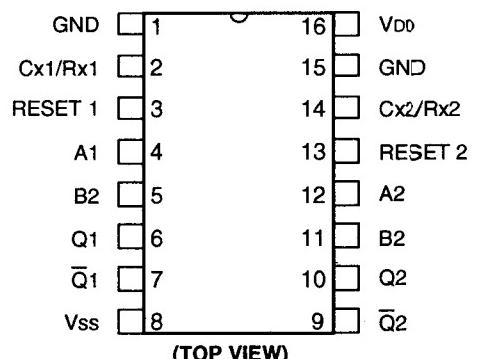
2. IC4 on the Demodulator Board is using the Video Signal Interface IC YWCX20095A.

Description of this IC is as follows:



3. IC11 on the Demodulator Board, IC10 on the Modulator Board are using the Dual Precision Retriggerable Monostable Multivibrator IC YWUPD4538BG.

Description of this IC is as follows:



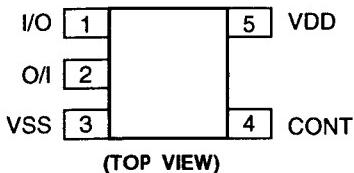
Truth Table

A	B	RESET	INPUT		OUTPUT		NOTE
			Q	Q̄	Q	Q̄	
1	H	H	1	1	1	1	Output Pulse
1	L	H	L	H	L	H	Inhibit
H	1	H	L	H	L	H	Inhibit
L	1	H	1	1	1	1	Output Pulse
*	*	L	L	H	L	H	Inhibit

* : Don't care.

4. IC10 and IC16 on the Demodulator Board, IC4 and IC7 on the Modulator Board are using the Single Analog Switch/Multiplexer/Demultiplexer IC YWTC4S66FR.

Description of this IC is as follows:

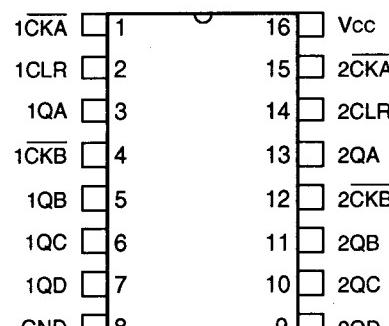


Truth Table

Input	Switch
Control	I/O – O/I
L	OFF
H	ON

6. IC9 on the Modulator Board are using the Dual Decade Counter IC UPD74HC390G.

Description of this IC is as follows:



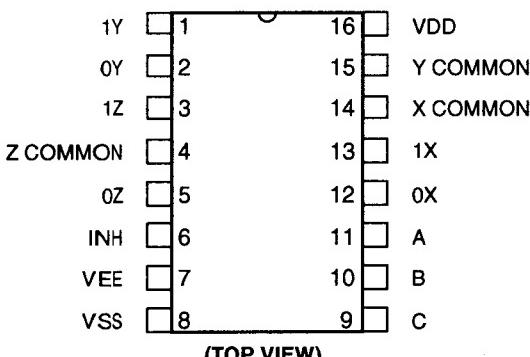
Truth Table

INPUTS		OUTPUTS				
CKA	CKB	CLR	QA	QB	QC	QD
*	*	H	L	L	L	L
↓	*	L	Binary Count up			
*	↓	L	Quinary Count up			

* : Don't care.

5. IC12 and IC14 on the Demodulator Board are using the Triple 2-ch Analog Multiplexers/Demultiplexers IC YWUPD4053BG.

Description of this IC is as follows:



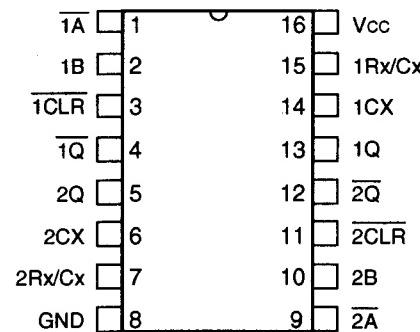
Truth Table

INHIBIT	C	B	A	X COMMON	Y COMMON	Z COMMON
L	L	L	L	0X	0Y	0Z
L	L	L	H	1X	0Y	0Z
L	L	H	L	0X	1Y	0Z
L	L	H	H	1X	1Y	0Z
L	H	L	L	0X	0Y	1Z
L	H	L	H	1X	0Y	1Z
L	H	H	L	0X	1Y	1Z
L	H	H	H	1X	1Y	1Z
H	*	*	*	NONE	NONE	NONE

* : Don't care.

7. IC13 and IC14 on the Modulator Board are using the Dual Monostable Multivibrator IC UPD74HC221AG.

Description of this IC is as follows:



Truth Table

INPUTS			OUTPUTS		NOTE
Ā	B	CLR	Q	Ā̄	
↓	H	H	↓	↑	Output Pulse
*	L	H	L	H	Inhibit
H	*	H	L	H	Inhibit
L	↓	H	↓	↑	Output Pulse
L	H	↓	↓	↑	Output Pulse
*	*	L	L	H	Inhibit

* : Don't care.

ADJUSTMENT PROCEDURE

1. Adjustment Procedure

- The following Test Equipments are required for adjustment of the Industrial Colour Camera WV-E550E and WV-PS550.
- Digital Multimeter
- Frequency Counter
- Oscilloscope
- Signal Generator
- Special Effects Generator
- G/L Signal Generator
- Waveform Monitor
- Vectorscope
- Underscanned Colour Video Monitor
- DC Power Supply Unit
- Auto Iris Servo Control Zoom Lens
- Lens Cable (WV-CA12T12)
- 36-pin/28-pin Camera Cable
- N-Coaxial Cable
- Remote Control Unit (WV-RC700A)
- Remote Control Box (WV-CB700AE)
- Lighting (200 footcandles (2,000 lux), 3200°K)
- Lux Meter
- In-Mega Chart
- ND-8 Filter
- D Sub/BNC Cable (WV-CA9T5)
- Logarithmic Gray Scale Chart (Part Number: YWV2310RB99) as shown in Fig. 1-1.

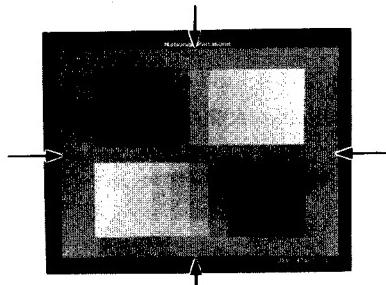


Fig. 1-1

- Extension Board (Part Number: YWV0EA0289AN) for System Control Board, Preprocess Board and Preamp/Encoder Board as shown in Fig. 1-2.

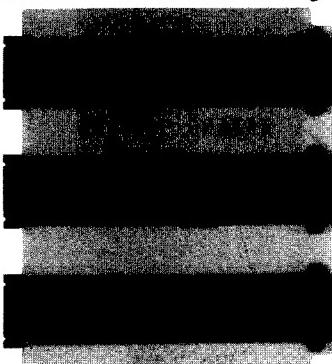


Fig. 1-2

- Extension Board (Part Number: YWV0EA0288AN) for Power Board and Digital Process Board as shown in Fig. 1-3.

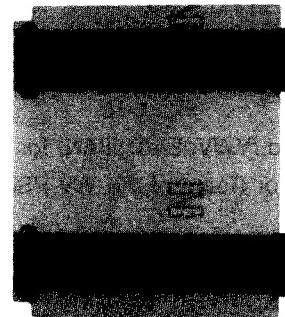


Fig. 1-3

- Extension Board (Part Number: YWV0EA0287AN) for Drive Board and Preamp/Encoder Board as shown in Fig. 1-4.



Fig. 1-4

- Flexible Cable (Part Number: YWV0EA0295AN 1 piece) for between System Control Board and Digital Process Board as shown in Fig. 1-5.

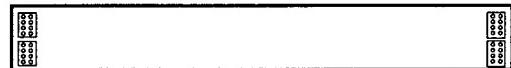


Fig. 1-5

- Flexible Cable (Part Number: YWV0EA0292AN 3 pieces) for between Rear Board and Mother Board as shown in Fig. 1-6.

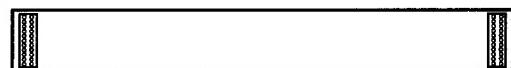


Fig. 1-6

- Flexible Cable (Part Number: YWV0EA0293AN 3 pieces) for between Sync Board and Preamp/Encoder Board as shown in Fig. 1-7.



Fig. 1-7

- Flexible Cable (Part Number: YWV0EA0290AN 1 piece) for between Drive Board and Sensor Board as shown in Fig. 1-8.

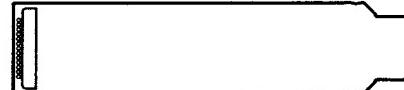


Fig. 1-8

- Flexible Cable (Part Number: YWV0EA0291AN 1 piece) for between Preamp/Encoder Board and Sensor Board as shown in Fig. 1-9.

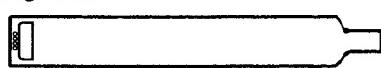


Fig. 1-9

- Flexible Cable (Part Number: YWV0EA0294AN) for between System Control Board and Digital Process Board as shown in Fig. 1-10.

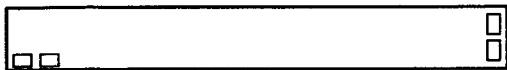


Fig. 1-10

- Extension Board (YWV0EA0158AN) for Modulator Board and Demodulator Board of the WV-PS550 as shown in Fig. 1-11.

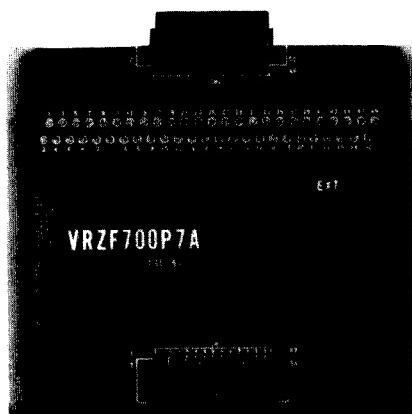


Fig. 1-11

2. Disassembling Procedure for Adjustment

2.1. WV-E550E

- Referring to Fig. 2-1-1, remove four screws fixing the Upper Cover and remove the Upper Cover.

Remove four screws.

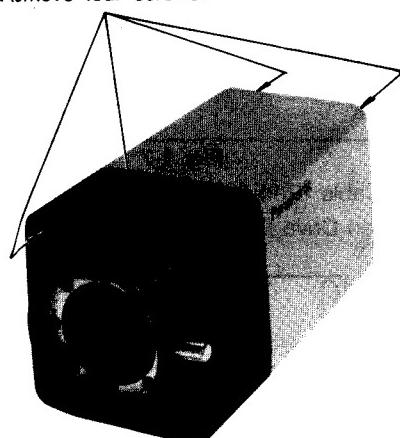


Fig. 2-1-1

- Referring to Fig. 2-1-2, remove three screws fixing the PCB Holder and remove the PCB Holder.
- Pull the Rear Board Ass'y out from three connectors on the MotherBoard.

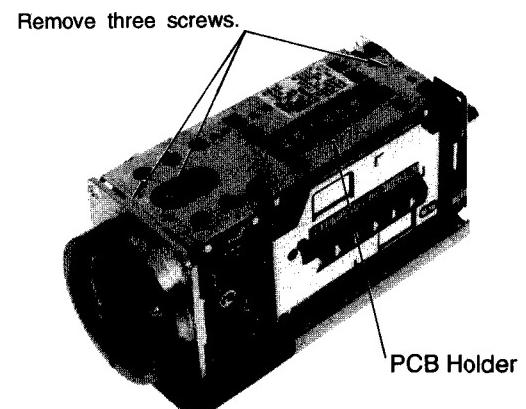
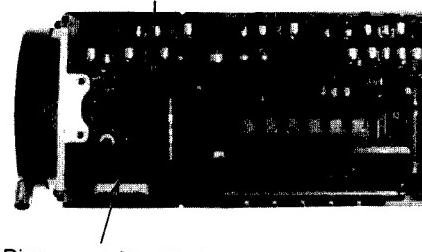


Fig. 2-1-2

- Referring to Fig. 2-1-3, disconnect one Flexible Board from CN3 on the Drive Board and disconnect one Flexible Board from the CN10 on the Preamp /Encoder Board.

Disconnect Flexible Board.



Disconnect Flexible Board.

Fig. 2-1-3

- Referring to Fig. 2-1-4, pull each Board Assy out from their connectors on the Mother Board Ass'y.

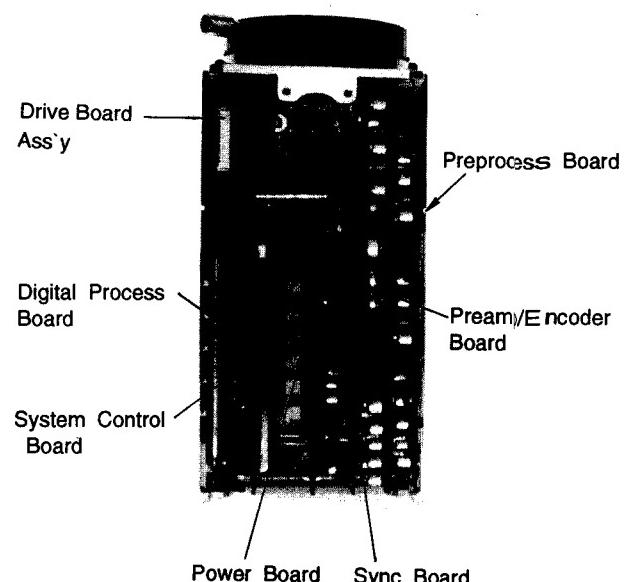


Fig. 2-1-4

2.2. WV-PS550

- Referring to Fig. 2-2-1, remove sixteen screws fixing the Upper Cover and the Bottom Cover, and then remove the Upper Cover and the Bottom Cover.

Remove eight screws.

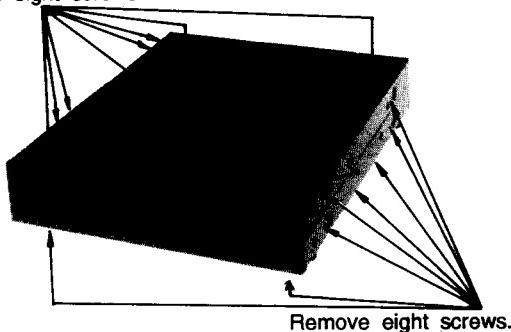
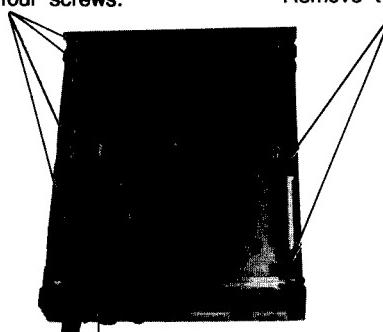


Fig. 2-2-1

- Referring to Fig. 2-2-2, remove five screws fixing the Power Board and disconnect three connectors from the Power Board, then remove the Power Board.
- Remove two screws fixing the Mounting Bracket and remove the Mounting Bracket.

Remove four screws.



Power Board Fig. 2-2-2

Remove two screws.

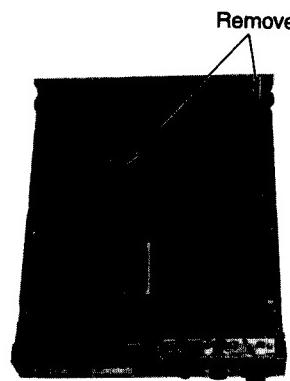


Fig. 2-2-3

- Referring to Fig. 2-2-4, turn the Mother Ass'y then pull the Modulator Board Ass'y and the Demodulator Board Ass'y out from the connectors on the Mother Board.
- Remove one screw and one plastic rivet fixing the Audio Board and pull the Audio Board Ass'y from the connector on the Audio Mother Board.

Remove one plastic rivet.

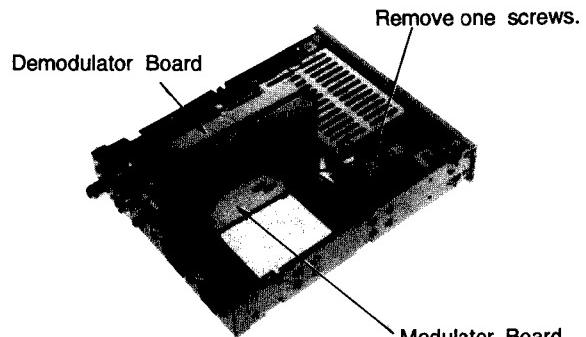


Fig. 2-2-4

3. Head Optical Ass'y Replacement

- Referring to Fig. 2-1-3, disconnect one Flexible Board from CN3 on the Drive Board and disconnect one Flexible Board from the CN10 on the Preamp /Encoder Board.
- Referring to Fig. 3-1, remove two screws and remove the Head Optical Ass'y.

Remove two screws.

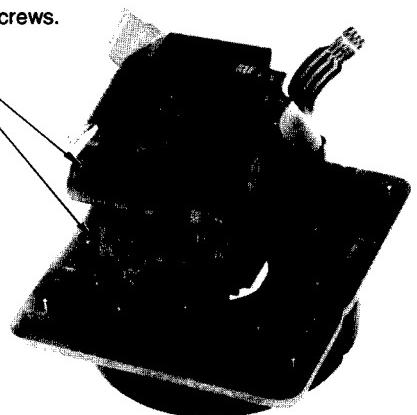


Fig. 3-1

4. Connection and Setting Up for Adjustment

4.1. Connection

The Fig. 4-1-1 shows the connecting diagram for adjustment of WV-E550E.

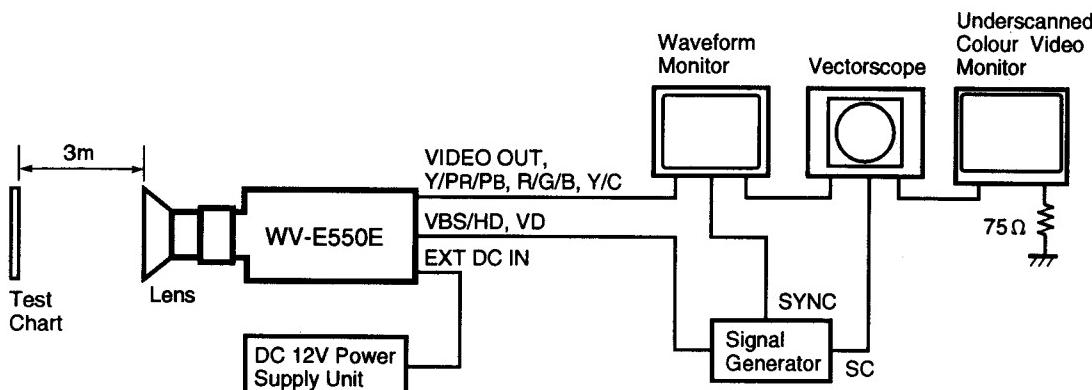


Fig. 4-1-1

- Connect the Underscanned Colour Video Monitor to the VIDEO OUT Connector on the Rear Panel of the WV-E550E through the Waveform Monitor and the Vectorscope using the coaxial cables.
- Terminate the input terminal of the Underscanned Colour Video Monitor with 75Ω .
- Connect the Signal Generator to the VBS/HD Connector on the Rear Panel using coaxial cable.
- Connect the 12V DC Power Supply Unit to the EXT DC IN Connector on the Rear Panel of the WV-E550E.
- Connect probe of the Oscilloscope, Frequency Counter and Digital Voltmeter to desired Test Point in each adjustment step.

The Fig. 4-1-2 shows the connecting diagram for adjustment of WV-PS550.

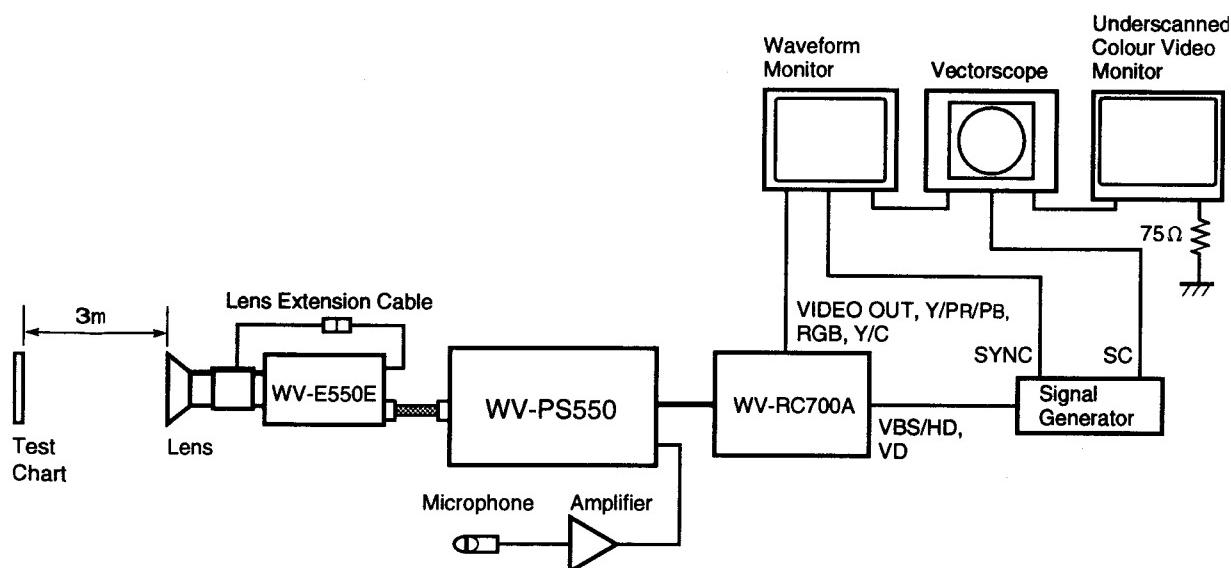


Fig. 4-1-2

- Connect the Underscanned Colour Video Monitor to the VIDEO OUT 1 Connector on the Rear Panel of the WV-RC700A through the Waveform Monitor and the Vectorscope using the coaxial cables.
- Terminate the input terminal of the Underscanned Colour Video Monitor with 75Ω .
- Connect the Signal Generator to the GEN-LOCK IN Connector on the Rear Panel of the WV-RC700A using the coaxial cable.

- Connect between the MPX Connector on the Rear Panel of the WV-RC700A and the MPX Connector on the Rear panel of the WV-PS550 using the N-Coaxial Cable, then Cable Select Switch on the Rear Panel of the WV-RC700A set to VP side.
- Connect between the Control Connector on the Rear Panel of the WV-E550E and the Camera Connector on the Rear Panel of the WV-PS550 using the 36-pin/28pin Camera Cable.
- Connect probe of the Oscilloscope, Frequency Counter and Digital Voltmeter to desired Test Point in each adjustment step.

4.2. Mode Setting for Adjustment

- The modes setting for adjustment should be set with the **PAGE**, **ITEM (AWC)**, **UP (ABC)** and **DOWN (BAR)** switches are mounted on the Rear Panel of the Camera.
- Press the **PAGE** switch more than 3 seconds, the Setup Menu as shown in Table 4-1 will be displayed.

** SETUP **		
GAIN	AGC HIGH	
IRIS	AUTO	
SHUTTER	OFF	
WHITE BAL	ATW	
DTL LEVEL	LOW	
SCENE FILE	SCENE1	
INIT	USER	END

Table 4-1

- Select the item **GAIN** by the **ITEM** switch, then set to **0DB** by either the **UP** switch or **DOWN** switch.
- Select the item **IRIS** by the **ITEM** switch, then set to **MANU** by either the **UP** switch or **DOWN** switch.
- Select the item **DTL LEVEL** by the **ITEM** switch, then set to **OFF** by either the **UP** switch or **DOWN** switch.
- The menu as shown in Table 4-2 will be obtained.

** SETUP **		
GAIN	0DB	
IRIS	MANU	
SHUTTER	OFF	
WHITE BAL	ATW	
DTL LEVEL	OFF	
SCENE FILE	USER A	
INIT	USER	END

Table 4-2

- Select the item **INIT** by the **ITEM** switch, then press the **PAGE** switch three times.

- Select the item **COLOUR BAR** by **ITEM** switch, then set to **2** by either the **UP** switch or **DOWN** switch so that the menu as shown in Table 4-3 will be displayed.

NO.3 ** INITIAL **		
SYNCHRO-SCAN	253/525	
FLD/FRM	FIELD	
GAMMA	ON	
2D LPF	OFF	
COLOR BAR	2	
RET	END	

Table 4-3

- Select the item **USER** by the **ITEM** switch, then press the **PAGE** switch so that the menu as shown in Table 4-4 will be displayed.

NO.1 USER A * 0DB		
(.35 - .45)	CURR	NEW
* GAMMA	.45	.45
* GAMMA	.45	.45
KNEE POINT	88%	88%
WHITE CLIP	110	110
* H. DTL LEVEL H	31	31
* V. DTL LEVEL H	31	31
* H. DTL LEVEL L	15	15
* V. DTL LEVEL L	15	15
RET	END	

Table 4-4

- Select the item **KNEE POINT** by the **ITEM** switch, then set to **98 %** by either the **UP** switch or **DOWN** switch.
- Select the item **END** by the **ITEM** switch, then press the **PAGE** switch.
- All adjustment steps should be done with this standard menu, unless otherwise specified.

4.3. Setting Up

Set the Standard Picture as follows:

- Mount the Auto Iris Lens on the Camera Head.
- Set the Logarithmic Gray Scale Chart.
- Incident light intensity of $2,000 \pm 50$ lux on the Logarithmic Gray Scale Chart.
- Aim the Camera at the Logarithmic Gray Scale Chart.
- Set the Camera so that the Logarithmic Gray Scale Chart becomes full picture on the Underscanned Colour Video monitor.
- Connect the Oscilloscope to TP201(G IN) on the Preprocess Board.

- Turn the Lens Focus to obtain correct focal point.
- Set the Lens Iris so that the peak level of the gray scale from the blanking level becomes 300 mV as shown in Fig. 4-2.

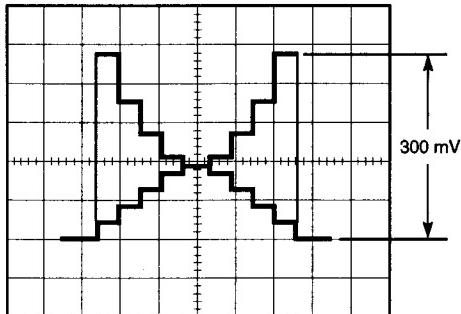


Fig. 4-2

- The adjustment should be done with this initial setting, unless otherwise specified.

5.1. Adjustment Procedure for WV-E550E

- Refer to the Location of the Test Points and Adjusting Controls on page 62.
- When adjusting the Power Board, use Extension Board (Part No. : YWV0EA0288AN) as shown in page 38.

(1) 5.2V Adjustment

- | | |
|-------------------------------|--------------------|
| Test Point: TP2 (5.2V) | Power Board |
| Adjust: VR1 (5.2V) | Power Board |
- Connect the Digital Voltmeter to TP2.
 - Adjust VR1 to obtain 5.2 ± 0.05 V DC.

(2) Reset Phase Adjustment

- | | |
|-------------------------------|--------------------|
| Test Point: TP3 (FREQ) | Power Board |
| Adjust: VR2 (FREQ) | Power Board |
- Connect the Digital Voltmeter to TP3.
 - Trigger the Oscilloscope at the H rate.
 - Adjust VR2 so that the phase of the Reset Pulse becomes 8T as shown in Fig. 5-1-1.

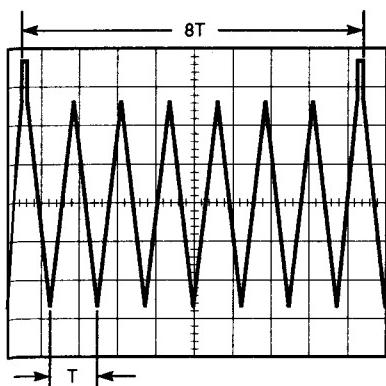


Fig. 5-1-1

- When adjusting the Drive Board, use Extension Board (Part No. : YWV0EA0287AN) and Flexible Cable (Part No. : YWV0EA0291AN) as shown in page 38.

(3) Drive PLL Adjustment

- | | |
|-------------------------------|--------------------|
| Test point: TP7 (PD) | Drive Board |
| Adjust: L1 (28MHz VCO) | Drive Board |

- Connect the Digital Voltmeter to TP7.
- Adjust L1 to obtain 1.8 ± 0.2 V DC.

(4) VSUB (CCD Bias) Adjustment

- | | |
|--------------------------------|--------------------|
| Test Point: TP4 (SUB-B) | Drive Board |
| TP5 (SUB-G) | Drive Board |
| TP6 (SUB-R) | Drive Board |
| Adjust: VR4 (SUB-B) | Drive Board |
| VR5 (SUB-G) | Drive Board |
| VR6 (SUB-R) | Drive Board |

- Referring to Fig. 5-1-2, check each VSUB voltage on the Indication Label of the Head Optical Ass'y.
- Connect the Digital Voltmeter to TP4.
- Adjust VR4 to obtain Bch VSUB Voltage which indicated on the label.
- Change the Digital Voltmeter to TP5.
- Adjust VR5 to obtain Gch VSUB Voltage which indicated on the label.
- Change the Digital Voltmeter to TP6.
- Adjust VR6 to obtain Rch VSUB Voltage which indicated on the label.

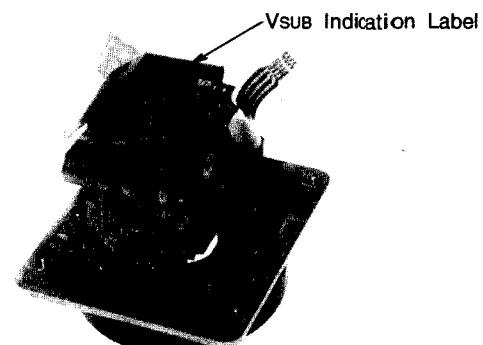


Fig. 5-1-2

(5) Reset Gate Adjustment

- | | |
|----------------------------------|-----------------------------|
| Test Point: TP502 (R OUT) | Preamp/Encoder Board |
| TP602 (G OUT) | Preamp/Encoder Board |
| TP702 (B OUT) | Preamp/Encoder Board |
| TP401 (GND) | Preamp/Encoder Board |
| Adjust: VR1 (RG-R) | Drive Board |
| VR2 (RG-G) | Drive Board |
| VR3 (RG-B) | Drive Board |

- Aim the Camera at the Logarithmic Gray Scale Chart.
- Set the Lens iris fully open.

- Connect the Ground terminal of the Oscilloscope to TP401.
- Connect the Oscilloscope to TP502.
- Adjust VR1 so that the Preamp output signal becomes maximum.
- Change the Oscilloscope to TP602.
- Adjust VR2 so that the Preamp output signal becomes maximum.
- Change the Oscilloscope to TP702.
- Adjust VR3 so that the Preamp output signal becomes maximum.

■ When adjusting the Sync Board, use Extension Board (Part No. : YWV0EA0289AN) for Encoder Section, Extension Board (Part No. : YWV0EA0287AN) for Preamp Section and Flexible Cable (Part No. : YWV0EA0290AN) for Preamp section as shown in page 38.

(6) H-LOCK Frequency Adjustment

Test point: TP8 (SC)

Sync Board

Adjust: VR1 (H-LOCK)

Sync Board

- Connect the Frequency Counter to TP8.
- Adjust VR1 to obtain $4.433618 \text{ MHz} \pm 10 \text{ Hz}$.

(7) G/L Sync PLL Adjustment

Test point: TP5 (G/L VCO)

Sync Board

Adjust: L1 (G/L VCO)

Sync Board

- Supply the Black Burst Signal or Video signal to the VBS/HD Connector on the Rear Panel.
- Connect the Digital Voltmeter to TP5.
- Adjust L1 to obtain $2.8 \pm 0.2 \text{ V DC}$.

(8) Clock Pulse Phase Adjustment

Test point: TP6 (8FSC)

Digital Process Board

TP5 (4FSC)

Digital Process Board

TP2 (8FSC-2)

Digital Process Board

TP4 (4FSC-2)

Digital Process Board

TP8 (GND)

Digital Process Board

Adjust: CT2 (8FSC-2 PHASE)

Digital Process Board

CT1 (4FSC PHASE)

Digital Process Board

CT3 (4FSC-2 PHASE)

Digital Process Board

- Connect CH1 of the Oscilloscope to TP6.
- Connect CH2 of the Oscilloscope to TP5.
- Connect the Ground terminal of the Oscilloscope to TP8.
- Adjust CT2 to obtain $5 \pm 1 \text{ nsec}$ as shown in Fig. 5-1-3.

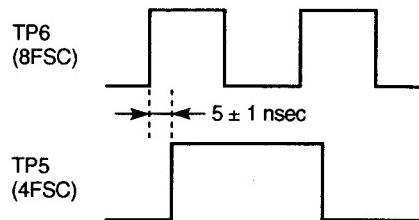


Fig. 5-1-3

- Change CH1 of the Oscilloscope to TP5.
- Change CH2 of the Oscilloscope to TP2.
- Adjust CT1 to obtain $4 \pm 1 \text{ nsec}$ as shown in Fig. 5-1-4.

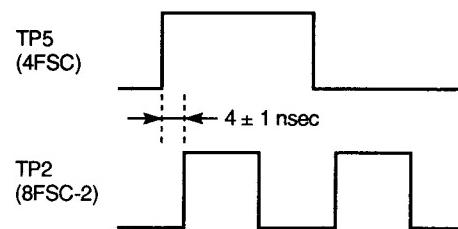


Fig. 5-1-4

- Change CH1 of the Oscilloscope to TP2.
- Change CH2 of the Oscilloscope to TP4.
- Adjust CT3 to obtain $4 \pm 1 \text{ nsec}$ as shown in Fig. 5-1-5.

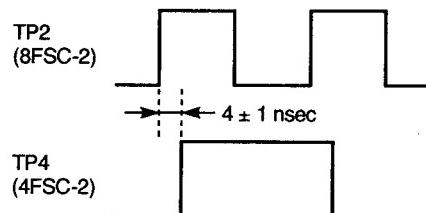


Fig. 5-1-5

(9) Character Position Adjustment

Test point: VIDEO OUT CONNECTOR

Rear Panel

Adjust: CT1 (CHARACTER)

System Control Board

- Press the DOWN (BAR) switch more than 3 seconds so that the Colour Bar 2 mode is selected.
- Press the PAGE switch on the Rear Panel more than 3 seconds.
- Adjust CT1 so that the left edge of the U character of the SHUTTER word becomes a divider line of the White and Yellow of the Colour Bar as shown in Fig. 5-1-6.

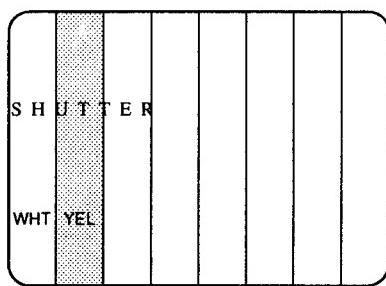


Fig. 5-1-6

- When adjusting the Preamp/Encoder Board, use Extension Board (Part No. : YWV0EA0289AN) for Encoder Section, Extension Board (Part No. : YWV0EA0287AN) for Preamp Section and Flexible Cable (Part No. : YWV0EA0290AN) for Preamp section as shown in page 38.

(10) Colour Bar Adjustment

- Press the DOWN (BAR) switch more than 3 seconds so that the Colour Bar 2 mode is selected.

(10)-1 Y/C Mode (OUTPUT SEL2) Adjustment

Test Point: Pin 6 of CN6 (Y)

Rear Panel

Adjust: VR3 (Y) Preamp/Encoder Board
VR1 (SYNC) Preamp/Encoder Board

- Connect the terminated Oscilloscope with 75Ω to the Pin 6 of the VIDEO/RGB Connector.
- Open the page 5 of the Initial Menus by the PAGE switch.
- Select the item **OUTPUT SEL2** by the ITEM switch, then set the **Y/C** mode by either UP switch or DOWN switch, the menu as shown in Table 5-1-1 will be displayed.

NO.5 ** INITIAL **
OUTPUT SEL1 Y/C
OUTPUT SEL2 Y/C
SYNC SEL 0.3V
CAMERA ID OFF
TIME DATE OFF
RET END

Table 5-1-1

- Adjust VR3 so that the Y Level becomes 700 ± 14 mV as shown in Fig. 5-1-7.
- Adjust VR1 so that the Sync Level becomes 300 ± 14 mV as shown in Fig. 5-1-7.

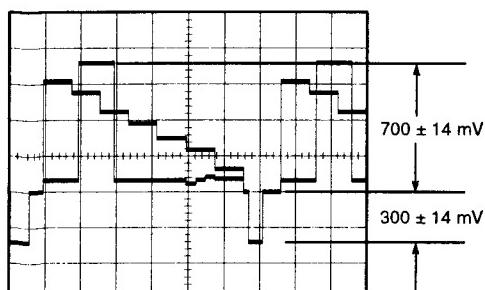


Fig. 5-1-7

(10)-2 ENC Mode (OUTPUT SEL2) Adjustment

Test Point: Pin 6 of VIDEO/RGB Connector

Rear Panel

Adjust: VR4 (COMP Y) Preamp/Encoder Board

- Connect the terminated Oscilloscope with 75Ω to the Pin 6 of the VIDEO/RGB Connector.
- Open the page 5 of the Initial Menus by the PAGE switch.
- Select the item **OUTPUT SEL2** by the ITEM switch, then set the **ENC** mode by either the UP switch or DOWN switch, the menu as shown in Table 5-1-2 will be displayed.

NO.5 ** INITIAL **
OUTPUT SEL1 Y/C
OUTPUT SEL2 ENC
SYNC SEL 0.3V
CAMERA ID OFF
TIME DATE OFF
RET END

Table 5-1-2

- Adjust VR4 so that the COMP Y Level becomes 700 ± 14 mV as shown in Fig. 5-1-8.

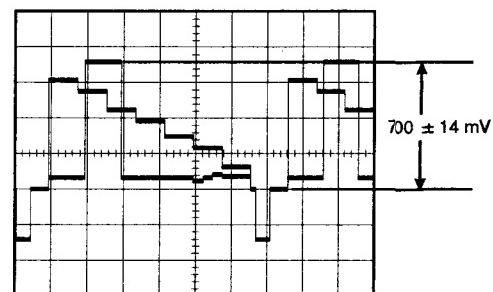


Fig. 5-1-8

(10)-3 Composite Mode (OUTPUT SEL2) Adjustment

Test Point: VIDEO OUT CONNECTOR Rear Panel

Pin 6 of VIDEO/RGB Connector

Rear Panel

Adjust: VR5 (C GAIN) Preamp/Encoder Board

VR6 (R-Y GAIN) Preamp/Encoder Board

VR7 (CAR BAL B) Preamp/Encoder Board

VR8 (CAR BAL R) Preamp/Encoder Board

CT1 (PHASE) Preamp/Encoder Board

VR14 (BURST LEVEL) Preamp/Encoder Board

VR24 (W-CLIP) Preamp/Encoder Board

- Open the page 5 of the Initial Menus by the PAGE switch.

- Select the item **OUTPUT SEL2** by the ITEM switch, then set the **COMPOSITE** mode by either the UP switch or DOWN switch, the menu as shown in Table 5-1-3 will be displayed.

NO.5 ** INITIAL **	
OUTPUT SEL1	Y/C
OUTPUT SEL2	COMPOSITE
SYNC SEL	0.3V
CAMERA ID	OFF
TIME DATE	OFF
RET	END

Table 5-1-3

- Adjust VR5 so that the each chroma vector positions at their correct positions on the Vectorscope as shown in Fig. 5-1-9.
- Adjust VR6 so that the each chroma vector positions at their correct positions on the Vectorscope as shown in Fig. 5-1-9.

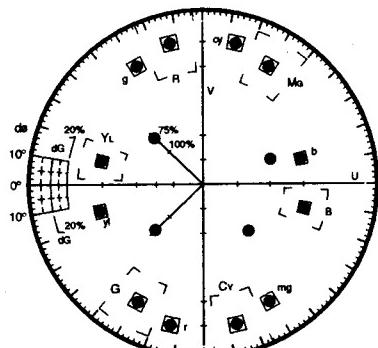


Fig. 5-1-9

- Set the Gain Control of the Vectorscope to maximum.
- Adjust VR7 so that the vector positions at center of the Vectorscope as shown in Fig. 5-1-10.
- Adjust VR8 so that the vector positions at center of the Vectorscope as shown in Fig. 5-1-10.

Positions at Center.

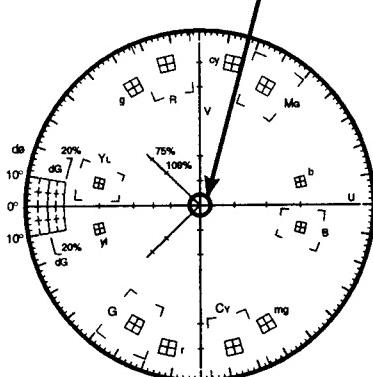


Fig. 5-1-10

- Adjust CT1 so that the each chroma vector positions at their correct positions on the Vectorscope as shown in Fig. 5-1-9.
- Adjust VR14 so that the Burst Level becomes 300 ± 7 mVp-p as shown in Fig. 5-1-11.

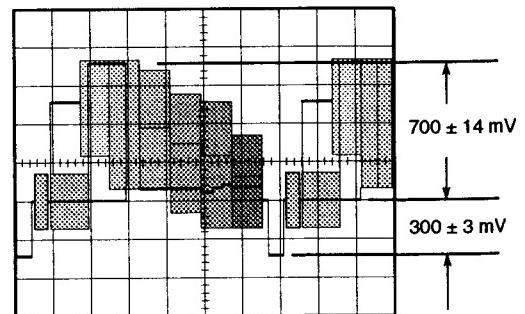


Fig. 5-1-11

- Confirm that the Burst Level becomes 100 % on the Vectorscope.
- Connect the terminated Oscilloscope with 75Ω to the Pin 6 of CN6.
- Adjust VR24 so that the White Clip Level becomes 112 %.

(10)-4 Burst Phase Adjustment

Test Point: VIDEO OUT CONNECTOR Rear Panel
Adjust: VR18 (BURST PHASE) Preamp/Encoder Board

- Aim the Camera at the Logarithmic Gray Scale Chart.
- Adjust VR18 so that the Burst Phase becomes correct position of the Vectorscope as shown in Fig. 5-1-12.

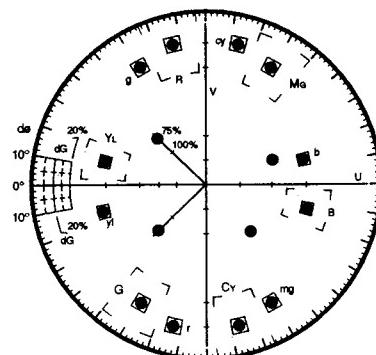


Fig. 5-1-12

(10)-5 Y/PR/PB Mode (OUTPUT SEL1) Adjustment

Test Point: Pin 4 of VIDEO/RGB Connector

	Rear Panel
Pin 3 of VIDEO/RGB Connector	Rear Panel
Pin 5 of VIDEO/RGB Connector	Rear Panel
	Rear Panel

Adjust:	VR10 (Y) Preamp/Encoder Board
	VR2 (Y-SYNC) Preamp/Encoder Board
	VR12 (PR) Preamp/Encoder Board
	VR13 (PB) Preamp/Encoder Board
	VR25 (W-CLIP) Preamp/Encoder Board

- Connect the terminated Oscilloscope with 75Ω to the Pin 4 of the VIDEO/RGB Connector.
- Open the page 5 of the Initial Menus by the PAGE switch.
- Select the item **OUTPUT SEL1** by the ITEM switch, then set the **Y/PR/PB** mode by either the UP switch or DOWN switch, the menu as shown in Table 5-1-4 will be displayed.

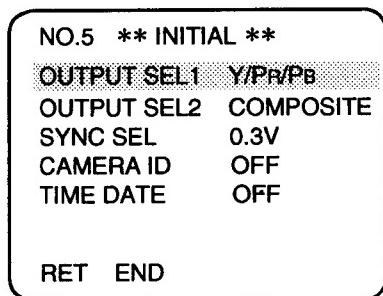


Table 5-1-4

- Preadjust VR25 so that the Y Level does not clip.
- Adjust VR10 so that the Y Level becomes 700 ± 14 mV as shown in Fig. 5-1-13.
- Adjust VR2 so that the Sync Level becomes 300 ± 14 mV as shown in Fig. 5-1-13.

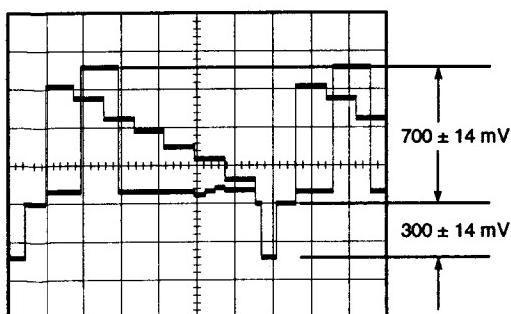


Fig. 5-1-13

- Change the terminated Oscilloscope with 75Ω to the Pin 3 of the VIDEO/RGB Connector.
- Adjust VR12 so that the PR Level becomes 700 ± 14 mV as shown in Fig. 5-1-14.

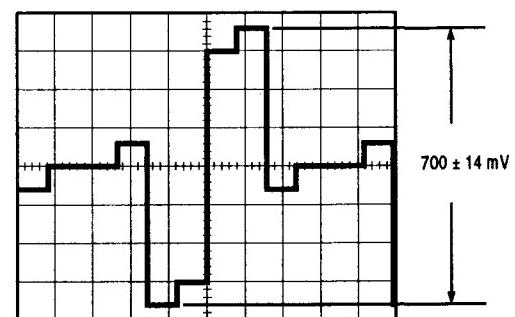


Fig. 5-1-14

- Change the terminated Oscilloscope with 75Ω to the Pin 5 of the VIDEO/RGB Connector.
- Adjust VR13 so that the PB Level becomes 700 ± 14 mV as shown in Fig. 5-1-15.

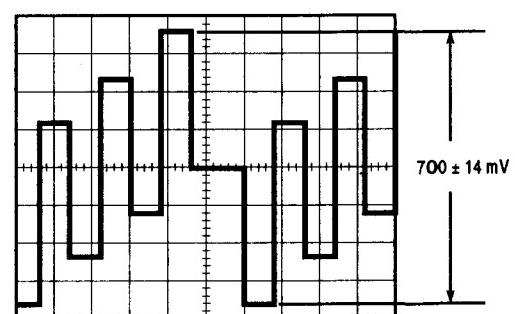


Fig. 5-1-15

- Change the terminated Oscilloscope with 75Ω to the Pin 4 of the VIDEO/RGB Connector.
- Adjust VR25 so that the Y Level becomes 800 ± 14 mV.

(10)-6 Y/C Mode (OUTPUT SEL1) Adjustment

Test Point: Pin 4 of VIDEO/RGB Connector

Rear Panel

Pin 3 of VIDEO/RGB Connector

Rear Panel

Adjust:	VR3 (Y) Preamp/Encoder Board
	VR9 (C/BURST) Preamp/Encoder Board

- Connect the terminated Oscilloscope with 75Ω to the Pin 4 of the VIDEO/RGB Connector.
- Open the page 5 of the Initial Menus by the PAGE switch.
- Select the item **OUTPUT SEL1** by the ITEM switch, then set the **Y/C** mode by either the UP switch or DOWN switch, the menu as shown in Table 5-1-5 will be displayed.

NO.5 ** INITIAL **	
OUTPUT SEL1	Y/C
OUTPUT SEL2	COMPOSITE
SYNC SEL	0.3V
CAMERA ID	OFF
TIME DATE	OFF
RET	END

Table 5-1-5

- Confirm that the Y Level becomes 700 ± 14 mV.
If not readjust VR3 so that the Y Level becomes 700 ± 14 mV as shown in Fig. 5-1-16.

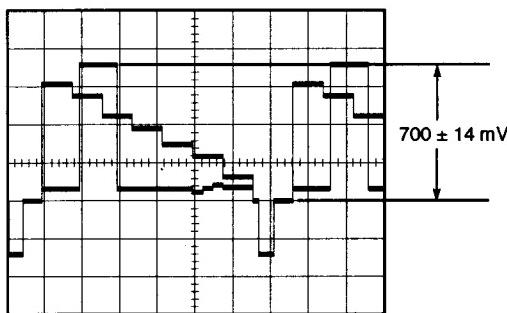


Fig. 5-1-16

- Change the terminated Oscilloscope with 75Ω to the Pin 3 of the VIDEO/RGB Connector.
- Adjust VR9 so that the Burst Level becomes 300 ± 14 mV as shown in Fig. 5-1-17.

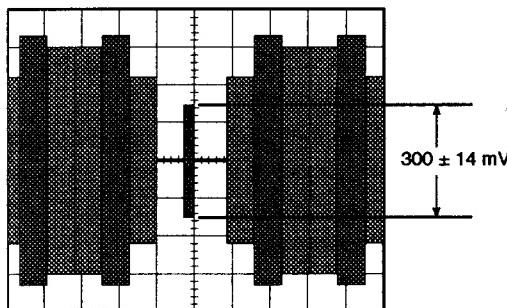


Fig. 5-1-17

(10)-7 R/G/B Mode (OUTPUT SEL1) Adjustment

Test Point: Pin 4 (G) of VIDEO/RGB Connector

Rear Panel

Pin 3 (R) of VIDEO/RGB Connector

Rear Panel

Pin 5 (B) of VIDEO/RGB Connector

Rear Panel

- | | | |
|---------|---------------|----------------------------|
| Adjust: | VR21 (G GAIN) | Preamplifier/Encoder Board |
| | VR22 (R GAIN) | Preamplifier/Encoder Board |
| | VR23 (B GAIN) | Preamplifier/Encoder Board |

- Connect the terminated Oscilloscope with 75Ω to the Pin 4 of the VIDEO/RGB Connector.
- Open the page 5 of the Initial Menus by the PAGE switch.
- Select the item OUTPUT SEL1 by the ITEM switch, then set the R/G/B mode by either the UP switch or DOWN switch, the menu as shown in Table 5-1-6 will be displayed.

NO.5 ** INITIAL **	
OUTPUT SEL1	R/G/B
OUTPUT SEL2	COMPOSITE
SYNC SEL	0.3V
CAMERA ID	OFF
TIME DATE	OFF
RET	END

Table 5-1-6

- Adjust VR21 so that the white portion of the Video signal level becomes 700 ± 14 mV as shown in Fig. 5-1-18.

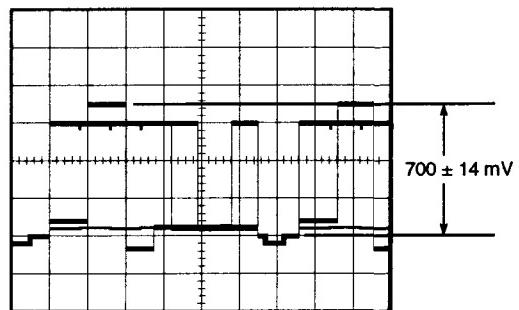


Fig. 5-1-18

- Change the terminated Oscilloscope with 75Ω to the Pin 3 of the VIDEO/RGB Connector.
- Adjust VR22 so that the Video signal level becomes flat level as shown in Fig. 5-1-19.

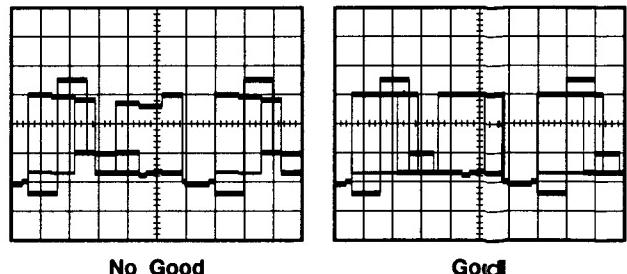


Fig. 5-1-19

- Change the terminated Oscilloscope with 75Ω to the Pin 5 of the VIDEO/RGB Connector.
- Adjust VR23 so that the Video signal level becomes flat level as shown in Fig. 5-1-20.

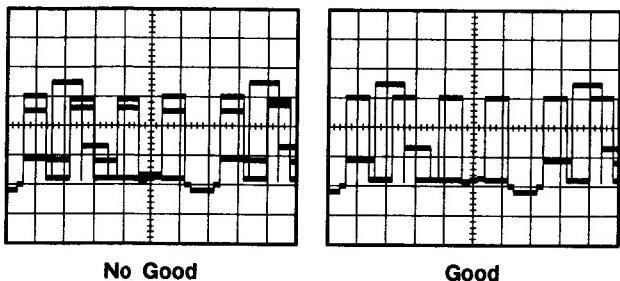


Fig. 5-1-20

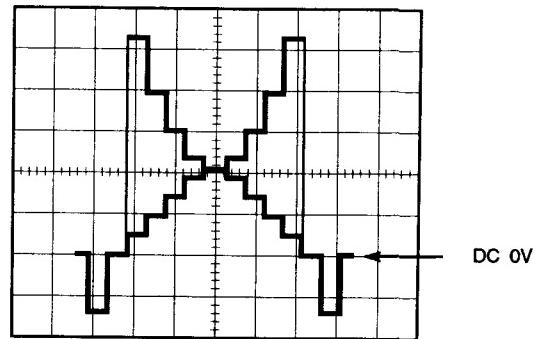


Fig. 5-1-21

- Before start to adjust following steps, press the DOWN (BAR) switch more than 3 seconds so that the Camera mode is selected.

(11) Preamp DC Offset Adjustment

Test Point:	TP502 (R OUT)	Preamp/Encoder Board
	TP602 (G OUT)	Preamp/Encoder Board
	TP702 (B OUT)	Preamp/Encoder Board
	TP401 (GND)	Preamp/Encoder Board
Adjust:	VR501 (R DC)	Preamp/Encoder Board
	VR601 (G DC)	Preamp/Encoder Board
	VR701 (B DC)	Preamp/Encoder Board

- Aim the Camera at the Logarithmic Gray Scale Chart.
- Set the Lens Iris to F8.
- Connect the Ground terminal of the Oscilloscope to TP401.
- Connect the Oscilloscope to TP502.
- Adjust VR501 so that the Black portion of the Video signal becomes 0 V DC (Ground level) as shown in Fig. 5-1-21.
- Connect the Ground terminal of the Oscilloscope to TP602.
- Adjust VR601 so that the Black portion of the Video signal becomes 0 V DC (Ground level) as shown in Fig. 5-1-21.
- Connect the Ground terminal of the Oscilloscope to TP702.
- Adjust VR701 so that the Black portion of the Video signal becomes 0 V DC (Ground level) as shown in Fig. 5-1-21.

(12) Preamp Frequency Response Adjustment

Test Point:	TP502 (R OUT)	Preamp/Encoder Board
	TP602 (G OUT)	Preamp/Encoder Board
	TP702 (B OUT)	Preamp/Encoder Board
	TP401 (GND)	Preamp/Encoder Board
Adjust:	CT501 (R FREQ)	Preamp/Encoder Board
	CT601 (G FREQ)	Preamp/Encoder Board
	CT701 (B FREQ)	Preamp/Encoder Board

- Aim the Camera at the In-Mega Chart.
- Connect the Ground terminal of the Oscilloscope to TP401.
- Connect the Oscilloscope to TP602.
- Set the Lens Iris so that the Video signal level at TP602 becomes 300 mV as shown in Fig. 5-1-22.
- Adjust CT601 so that each response becomes flat level and the 3 MHz signal level becomes 80 % against 0.5 MHz response as 100 % as shown in Fig. 5-1-22.
- Change the Oscilloscope to TP502.
- Adjust CT501 so that each response becomes flat level and the 3 MHz signal level becomes 80 % against 0.5 MHz response as 100 % as shown in Fig. 5-1-22.
- Change the Oscilloscope to TP702.
- Adjust CT701 so that each response becomes flat level and the 3 MHz signal level becomes 80 % against 0.5 MHz response as 100 % as shown in Fig. 5-1-22.

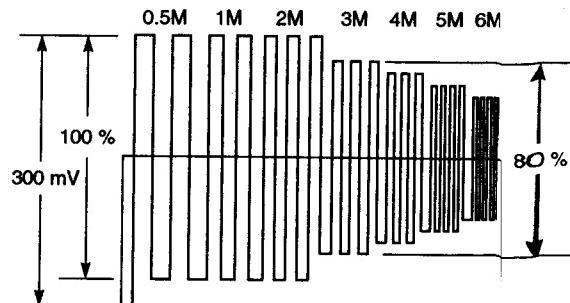


Fig. 5-1-22

- Before start to adjust following steps, short between TP3 and TP4 on the System Control Board to clear the AWC/ABC data.

(13) Input Gain Adjustment

Test Point:	TP201 (G IN)	Preprocess Board
	TP102 (R GAIN-1)	Preprocess Board
	TP202 (G GAIN-1)	Preprocess Board
	TP302 (B GAIN-1)	Preprocess Board
Adjust:	VR101 (R GAIN-1)	Preprocess Board
	VR201 (G GAIN-1)	Preprocess Board
	VR301 (B GAIN-1)	Preprocess Board

- Aim the Camera at the Logarithmic Gray Scale Chart.
- Connect the Oscilloscope to TP201.
- Set the Lens Iris so that the Video signal level becomes 300 mV as shown in Fig. 5-1-23.

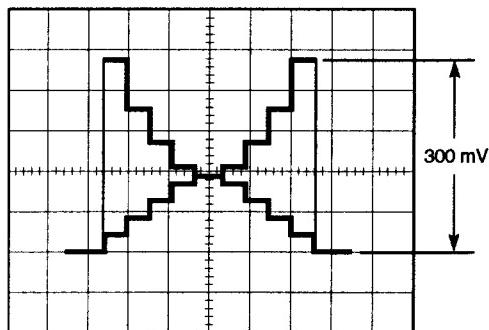


Fig. 5-1-23

- Change the Oscilloscope to TP102.
- Adjust VR101 so that the Video signal level becomes 700 ± 10 mV as shown in Fig. 5-1-24.
- Change the Oscilloscope to TP202.
- Adjust VR201 so that the Video signal level becomes 700 ± 10 mV as shown in Fig. 5-1-24.
- Change the Oscilloscope to TP302.
- Adjust VR301 so that the Video signal level becomes 700 ± 10 mV as shown in Fig. 5-1-24.

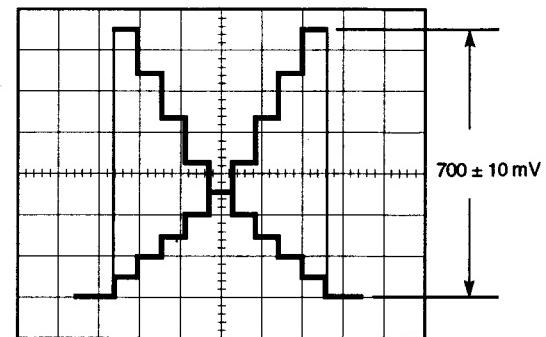


Fig. 5-1-24

(14) Pedestal Adjustment

Test Point:	VIDEO OUT CONNECTOR	Rear Panel
Adjust:	VR106 (R PED)	Preprocess Board
	VR206 (G PED)	Preprocess Board
	VR306 (B PED)	Preprocess Board

- Cap on the Lens.
- Adjust VR106 so that the Pedestal level becomes 10 % and the carrier becomes minimum as shown in Fig. 5-1-25.
- Adjust VR206 so that the Pedestal level becomes 10 % and the carrier becomes minimum as shown in Fig. 5-1-25.
- Adjust VR306 so that the Pedestal level becomes 10 % and the carrier becomes minimum as shown in Fig. 5-1-25.
- Repeat above steps until the Pedestal level becomes 10 % and the carrier becomes minimum.

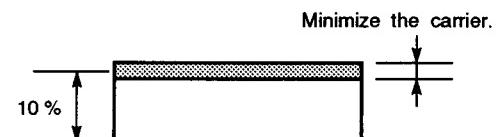


Fig. 5-1-25

(15) 0dB Gain Coarse Adjustment

Test Point:	TP201 (G IN)	Preprocess Board
	TP103 (R GAIN-2)	Preprocess Board
	TP203 (G GAIN-2)	Preprocess Board
	TP303 (B GAIN-2)	Preprocess Board
Adjust:	VR104 (R GAIN-2)	Preprocess Board
	VR204 (G GAIN-2)	Preprocess Board
	VR304 (B GAIN-2)	Preprocess Board

- Aim the Camera at the Logarithmic Gray Scale Chart.
- Connect the Oscilloscope to TP201.
- Set the Lens Iris so that the Video signal level becomes 300 mV as shown in Fig. 5-1-26.

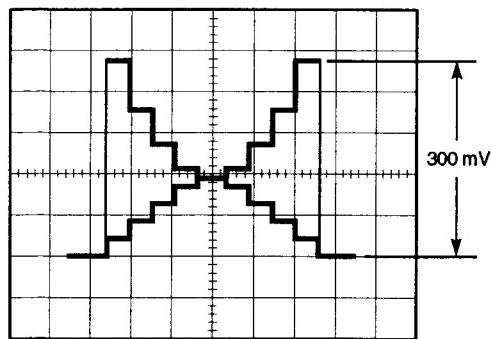


Fig. 5-1-26

- Change the Oscilloscope to TP103.
- Adjust VR104 so that the Video signal level becomes 700 ± 10 mV as shown in Fig. 5-1-27.
- Change the Oscilloscope to TP203.
- Adjust VR204 so that the Video signal level becomes 700 ± 10 mV as shown in Fig. 5-1-27.
- Change the Oscilloscope to TP303.
- Adjust VR304 so that the Video signal level becomes 700 ± 10 mV as shown in Fig. 5-1-27.

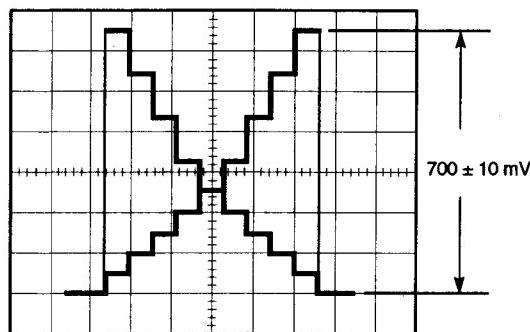


Fig. 5-1-27

(16) Gamma Adjustment

Test Point:	TP201 (G IN)	Preprocess Board
	TP106 (R GAMMA)	Preprocess Board
	TP206 (G GAMMA)	Preprocess Board
	TP306 (B GAMMA)	Preprocess Board
Adjust:	VR110 (R GAMMA MIN)	Preprocess Board
	VR108 (R GAMMA MAX)	Preprocess Board
	VR109 (R CROSS)	Preprocess Board
	VR107 (R KNEE)	Preprocess Board
	VR210 (G GAMMA MIN)	Preprocess Board
	VR208 (G GAMMA MAX)	Preprocess Board
	VR209 (G CROSS)	Preprocess Board
	VR207 (G KNEE)	Preprocess Board
	VR310 (B GAMMA MIN)	Preprocess Board
	VR308 (B GAMMA MAX)	Preprocess Board
	VR309 (B CROSS)	Preprocess Board
	VR307 (B KNEE)	Preprocess Board

- Aim the Camera at the Logarithmic Gray Scale Chart.
- Connect the Oscilloscope to TP201.
- Set the Lens Iris so that the Video signal level becomes 300 mV as shown in Fig. 5-1-28.

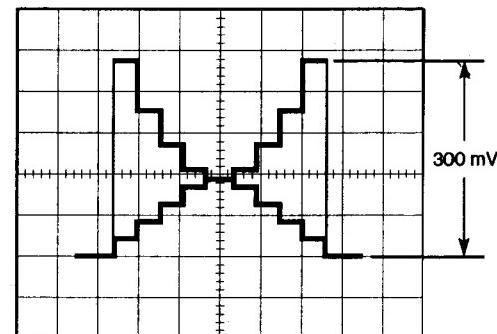


Fig. 5-1-28

- Set VR107, VR207 and VR307 so that Knee does not effect.
- Set VR109, VR209 and VR309 to minimum ($\gamma = 1$).
- Change the Oscilloscope to TP106.
- Adjust VR110 so that the Video signal level becomes $1.44 V \pm 10$ mV as shown in Fig. 5-1-29.
- Change the Oscilloscope to TP206.
- Adjust VR210 so that the Video signal level becomes $1.44 V \pm 10$ mV as shown in Fig. 5-1-29.
- Change the Oscilloscope to TP306.
- Adjust VR310 so that the Video signal level becomes $1.44 V \pm 10$ mV as shown in Fig. 5-1-29.

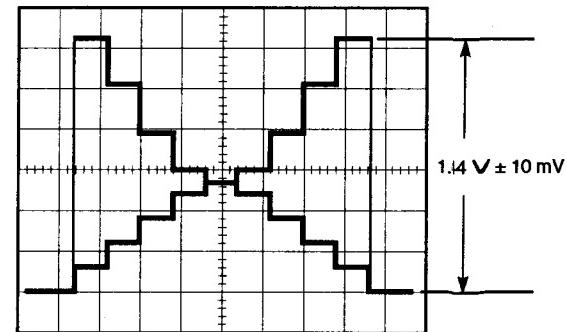


Fig. 5-1-29

- Set VR109, VR209 and VR309 to maximum ($\gamma = 0.4$).
- Change the Oscilloscope to TP106.
- Adjust VR108 so that the Video signal level becomes $1.44 V \pm 10$ mV as shown in Fig. 5-1-30.
- Change the Oscilloscope to TP206.
- Adjust VR208 so that the Video signal level becomes $1.44 V \pm 10$ mV as shown in Fig. 5-1-30.
- Change the Oscilloscope to TP306.
- Adjust VR308 so that the Video signal level becomes $1.44 V \pm 10$ mV as shown in Fig. 5-1-30.

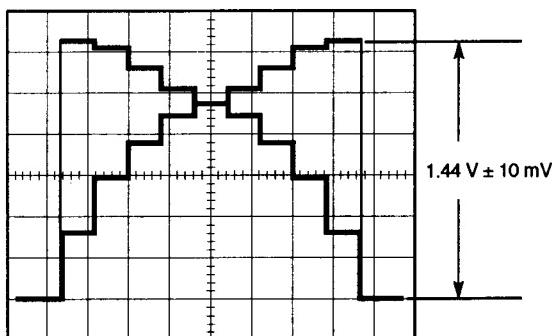


Fig. 5-1-30

- Repeat adjust between $\gamma = 1$ and $\gamma = 0.4$ so that the Video signal level does not change.

(17) Pedestal Coarse Adjustment

Test Point: VIDEO OUT CONNECTOR Rear Panel

Adjust: VR106 (R PED) Preprocess Board
VR206 (G PED) Preprocess Board
VR306 (B PED) Preprocess Board

- Cap on the Lens.
- Adjust VR106 so that the Pedestal level becomes 0 % and the carrier becomes minimum as shown in Fig. 5-1-31.
- Adjust VR206 so that the Pedestal level becomes 0 % and the carrier becomes minimum as shown in Fig. 5-1-31.
- Adjust VR306 so that the Pedestal level becomes 0 % and the carrier becomes minimum as shown in Fig. 5-1-31.



Fig. 5-1-31

(18) Cross Point Adjustment

Test Point: VIDEO OUT CONNECTOR Rear Panel

Adjust: VR109 (R CROSS) Preprocess Board
VR209 (G CROSS) Preprocess Board
VR309 (B CROSS) Preprocess Board

- Aim the Camera at the Logarithmic Gray Scale Chart.
- Adjust VR109 so that the Cross Point level of the Gray Scale becomes 57 ± 2 % and the carrier becomes minimum as shown in Fig. 5-1-32.
- Adjust VR209 so that the Cross Point level of the Gray Scale becomes 57 ± 2 % and the carrier becomes minimum as shown in Fig. 5-1-32.
- Adjust VR309 so that the Cross Point level of the Gray Scale becomes 57 ± 2 % and the carrier becomes minimum as shown in Fig. 5-1-32.

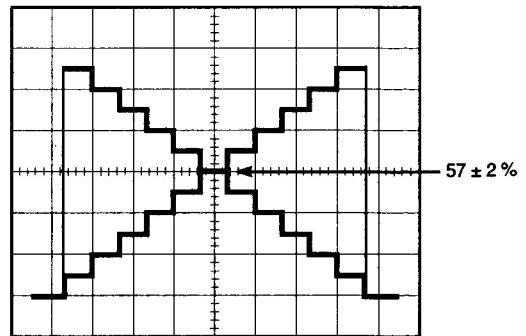


Fig. 5-1-32

(19) Pulse Cancel and Pedestal Adjustment

Test Point: VIDEO OUT CONNECTOR Rear Panel

Adjust: VR103 (R PULSE CANCEL) Preprocess Board
VR106 (R PED) Preprocess Board
VR203 (G PULSE CANCEL) Preprocess Board
VR206 (G PED) Preprocess Board
VR303 (B PULSE CANCEL) Preprocess Board
VR306 (B PED) Preprocess Board

- Press the PAGE switch more than 3 seconds, then set the GAIN to 18dB.
- Cap on the Lens.
- Adjust VR103 so that the Pedestal level becomes 0 % and the carrier becomes minimum as shown in Fig. 5-1-33.
- Adjust VR203 so that the Pedestal level becomes 0 % and the carrier becomes minimum as shown in Fig. 5-1-33.
- Adjust VR303 so that the Pedestal level becomes 7.5 % and the carrier becomes minimum as shown in Fig. 5-1-33.
- Set the GAIN to 0dB.
- Adjust VR106 so that the Pedestal level becomes 0 % and the carrier becomes minimum as shown in Fig. 5-1-33.
- Adjust VR206 so that the Pedestal level becomes 0 % and the carrier becomes minimum as shown in Fig. 5-1-33.
- Adjust VR306 so that the Pedestal level becomes 0 % and the carrier becomes minimum as shown in Fig. 5-1-33.



Fig. 5-1-33

- Repeat adjust between the 0dB Gain and 18dB Gain so that the Pedestal level does not change.

(20) Shutter Pulse Cancel Coarse Adjustment

Test Point: VIDEO OUT CONNECTOR Rear Panel
Adjust: VR102 (R SHUTTER) Preprocess Board
 VR202 (G SHUTTER) Preprocess Board
 VR302 (B SHUTTER) Preprocess Board

- Press the PAGE switch more than 3 seconds, then set the GAIN to 18dB and the SHUTTER to 1/100, the menu as shown in Table 5-1-7 will be displayed.

** SETUP **		
GAIN	18DB	
IRIS	MANU	
SHUTTER	1/100	
WHITE BAL	ATW	
DTL LEVEL	OFF	
SCENE FILE	USER A	
INIT	USER	END

Table 5-1-7

- Cap on the Lens.
- Adjust VR102 so that the Pedestal level becomes 0 % and the carrier becomes minimum as shown in Fig. 5-1-34.
- Adjust VR202 so that the Pedestal level becomes 0 % and the carrier becomes minimum as shown in Fig. 5-1-34.
- Adjust VR302 so that the Pedestal level becomes 0 % and the carrier becomes minimum as shown in Fig. 5-1-34.

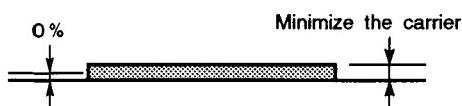


Fig. 5-1-34

- Repeat adjust between the 0dB Gain and 18dB Gain so that the Pedestal level does not change.

(21) Input Gain Fine Adjustment

Test Point: TP201 (G IN) Preprocess Board
 TP102 (R GAIN-1) Preprocess Board
 TP202 (G GAIN-1) Preprocess Board
 TP302 (B GAIN-1) Preprocess Board
Adjust: VR101 (R GAIN-1) Preprocess Board
 VR201 (G GAIN-1) Preprocess Board
 VR301 (B GAIN-1) Preprocess Board

- Press the PAGE switch more than 3 seconds, then set the GAIN to 0dB.
- Aim the Camera at the Logarithmic Gray Scale Chart.
- Connect the Oscilloscope to TP201.
- Set the Lens Iris so that the Video signal level becomes 300 mV as shown in Fig. 5-1-35.

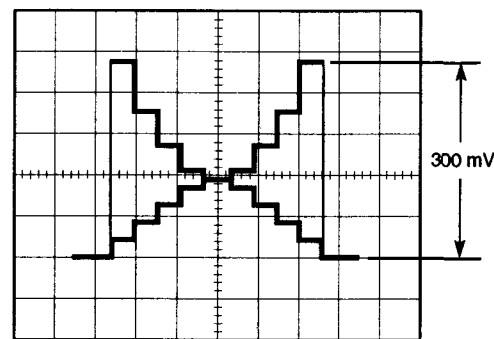


Fig. 5-1-35

- Change the Oscilloscope to TP102.
- Adjust VR101 so that the Video signal level becomes 700 ± 10 mV as shown in Fig. 5-1-36.
- Change the Oscilloscope to TP202.
- Adjust VR201 so that the Video signal level becomes 700 ± 10 mV as shown in Fig. 5-1-36.
- Change the Oscilloscope to TP302.
- Adjust VR301 so that the Video signal level becomes 700 ± 10 mV as shown in Fig. 5-1-36.

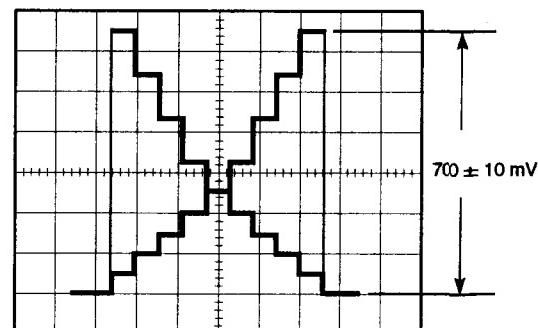


Fig. 5-1-36

(22) Superposition Shading Adjustment

- Press the PAGE switch more than 3 seconds, then set the GAIN to 18dB.
- Cap on the Lens.

(22)-1 H Top Shading Adjustment

Test Point: TP106 (R GAMMA) Preprocess Board
 TP206 (G GAMMA) Preprocess Board
 TP306 (B GAMMA) Preprocess Board
Adjust: VR1 (H TOP SHADING) Preprocess Board
 VR5 (R H TOP SHADING) Preprocess Board
 VR9 (G H TOP SHADING) Preprocess Board
 VR13 (B H TOP SHADING) Preprocess Board

- Connect the Oscilloscope to TP206 and triggered at H rate.

- Adjust VR9 so that the shading portion level becomes flat level as shown in Fig. 5-1-37.
- Adjust VR1 so that the H Top portion becomes flat level.
- Change the Oscilloscope to TP106 and triggered at H rate.
- Adjust VR5 so that the shading portion level becomes flat level as shown in Fig. 5-1-37.
- Change the Oscilloscope to TP306 and triggered at H rate.
- Adjust VR13 so that the shading portion level becomes flat level as shown in Fig. 5-1-37.

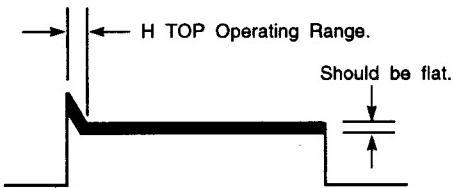


Fig. 5-1-37

- Set VR1 becomes minimum position of the effective range of the resistance.
- Note:** Do not set non-resistance area of VR1.

(22)-2 V Top Shading Adjustment

Test Point:	TP106 (R GAMMA)	Preprocess Board
	TP206 (G GAMMA)	Preprocess Board
	TP306 (B GAMMA)	Preprocess Board
Adjust:	VR2 (V TOP SHADING)	Preprocess Board
	VR6 (R V TOP SHADING)	Preprocess Board
	VR10 (G V TOP SHADING)	Preprocess Board
	VR14 (B V TOP SHADING)	Preprocess Board

- Connect the Oscilloscope to TP206 and triggered at V rate.
- Adjust VR10 so that the shading portion level becomes flat level as shown in Fig. 5-1-38.
- Adjust VR2 so that the V Top portion becomes flat level.
- Change the Oscilloscope to TP106 and triggered at V rate.
- Adjust VR6 so that the shading portion level becomes flat level as shown in Fig. 5-1-38.
- Change the Oscilloscope to TP306 and triggered at V rate.
- Adjust VR14 so that the shading portion level becomes flat level as shown in Fig. 5-1-38.

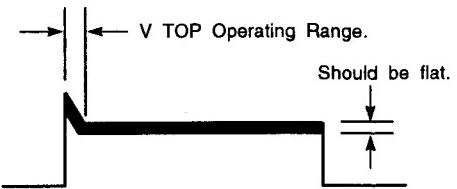


Fig. 5-1-38

- Set VR2 becomes minimum position of the effective range of the resistance.

Note: Do not set non-resistance area of VR2.

(22)-3 H Shading (SAW) Adjustment

Test Point:	TP106 (R GAMMA)	Preprocess Board
	TP206 (G GAMMA)	Preprocess Board
	TP306 (B GAMMA)	Preprocess Board
Adjust:	VR3 (R H SHADING (SAW))	Preprocess Board
	VR7 (G H SHADING (SAW))	Preprocess Board
	VR11 (B H SHADING (SAW))	Preprocess Board

- Connect the Oscilloscope to TP106 and triggered at H rate.
- Adjust VR3 so that the shading portion level becomes flat level as shown in Fig. 5-1-39.
- Change the Oscilloscope to TP206 and triggered at H rate.
- Adjust VR7 so that the shading portion level becomes flat level as shown in Fig. 5-1-39.
- Change the Oscilloscope to TP306 and triggered at H rate.
- Adjust VR11 so that the shading portion level becomes flat level as shown in Fig. 5-1-39.

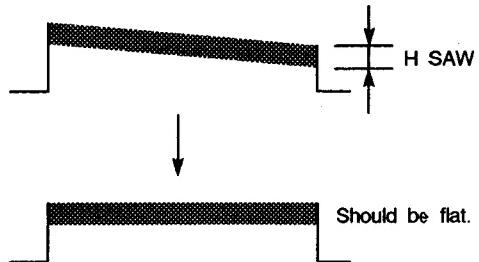


Fig. 5-1-39

(22)-4 V Shading (SAW) Adjustment

Test Point: TP106 (R GAMMA) Preprocess Board
 TP206 (G GAMMA) Preprocess Board
 TP306 (B GAMMA) Preprocess Board
Adjust: VR4 (R V SHADING (SAW))
 Preprocess Board
 VR8 (G V SHADING (SAW))
 Preprocess Board
 VR12 (B V SHADING (SAW))
 Preprocess Board

- Connect the Oscilloscope to TP106 and triggered at V rate.
- Adjust VR4 so that the shading portion level becomes flat level as shown in Fig. 5-1-40.
- Change the Oscilloscope to TP206 and triggered at V rate.
- Adjust VR8 so that the shading portion level becomes flat level as shown in Fig. 5-1-40.
- Change the Oscilloscope to TP306 and triggered at V rate.
- Adjust VR12 so that the shading portion level becomes flat level as shown in Fig. 5-1-40.

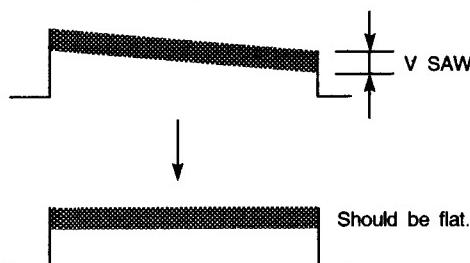


Fig. 5-1-40

(23) Pedestal Fine Adjustment

Test Point: VIDEO OUT CONNECTOR Rear Panel
Adjust: VR103 (R PULSE CANCEL)
 Preprocess Board
 VR106 (R PED) Preprocess Board
 VR203 (G PULSE CANCEL)
 Preprocess Board
 VR206 (G PED) Preprocess Board
 VR303 (B PULSE CANCEL)
 Preprocess Board
 VR306 (B PED) Preprocess Board

- Press the PAGE switch more than 3 seconds, then set the GAIN to 0dB.
- Cap on the Lens.
- Adjust VR106 so that the Pedestal level becomes 0 % and the carrier becomes minimum as shown in Fig. 5-1-41.

- Adjust VR206 so that the Pedestal level becomes 0 % and the carrier becomes minimum as shown in Fig. 5-1-41.
- Adjust VR306 so that the Pedestal level becomes 0 % and the carrier becomes minimum as shown in Fig. 5-1-41.
- Set the GAIN to 18dB.
- Adjust VR103 so that the Pedestal level becomes 0 % and the carrier becomes minimum as shown in Fig. 5-1-41.
- Adjust VR203 so that the Pedestal level becomes 0 % and the carrier becomes minimum as shown in Fig. 5-1-41.
- Adjust VR303 so that the Pedestal level becomes 0 % and the carrier becomes minimum as shown in Fig. 5-1-41.



Fig. 5-1-41

- Repeat adjust between the 0dB Gain and 18dB Gain so that the Pedestal level does not change.

(24) Shutter Pulse Cancel Fine Adjustment

Test Point: VIDEO OUT CONNECTOR Rear Panel
Adjust: VR102 (R SHUTTER) Preprocess Board
 VR202 (G SHUTTER) Preprocess Board
 VR302 (B SHUTTER) Preprocess Board

- Press the PAGE switch more than 3 seconds, then set the GAIN to 18dB and the SHUTTER to 1/100.
- Cap on the Lens.
- Adjust VR102 so that the Pedestal level becomes 0 % and the carrier becomes minimum as shown in Fig. 5-1-42.
- Adjust VR202 so that the Pedestal level becomes 0 % and the carrier becomes minimum as shown in Fig. 5-1-42.
- Adjust VR302 so that the Pedestal level becomes 0 % and the carrier becomes minimum as shown in Fig. 5-1-42.

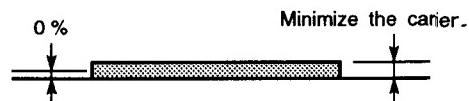


Fig. 5-1-42

- Repeat adjust between the 0dB Gain and 18dB Gain so that the Pedestal level does not change.
- After adjustment, set the GAIN to 0dB and the SHUTTER to OFF.

(25) 0dB/18dB Gain Adjustment

Test Point:	TP201 (G IN)	Preprocess Board
	TP103 (R GAIN-2)	Preprocess Board
	TP203 (G GAIN-2)	Preprocess Board
	TP303 (B GAIN-2)	Preprocess Board
Adjust:	VR104 (R GAIN-2)	Preprocess Board
	VR105 (R 18dB GAIN)	Preprocess Board
	VR204 (G GAIN-2)	Preprocess Board
	VR205 (G 18dB GAIN)	Preprocess Board
	VR304 (B GAIN-2)	Preprocess Board
	VR305 (B 18dB GAIN)	Preprocess Board

- Aim the Camera at the Logarithmic Gray Scale Chart.
- Connect the Oscilloscope to TP201.
- Set the Lens Iris so that the Video signal level becomes 300 mV as shown in Fig. 5-1-43.

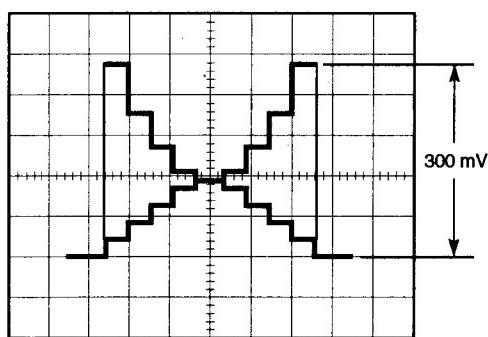


Fig. 5-1-43

- Press the **PAGE** switch more than 3 seconds, then set the **GAIN** to **0dB**.
- Change the Oscilloscope to TP203.
- Confirm that the Video signal level becomes 700 ± 10 mV as shown in Fig. 5-1-44.
If not, readjust VR204.
- Change the Oscilloscope to TP103.
- Confirm that the Video signal level becomes 700 ± 10 mV as shown in Fig. 5-1-44.
If not, readjust VR104.
- Change the Oscilloscope to TP303.
- Confirm that the Video signal level becomes 700 ± 10 mV as shown in Fig. 5-1-44.
If not, readjust VR304.
- Mount the ND-8 Filter on the Lens.
- Change the Oscilloscope to TP203.
- Set the **GAIN** to **18dB**.
- Adjust VR205 so that the Video signal level becomes 700 ± 10 mV as shown in Fig. 5-1-44.
- Remove the ND-8 Filter.
- Confirm that the Video signal becomes 700 ± 10 mV as shown in Fig. 5-1-44.
If not readjust VR204.

- Repeat adjustment between **0dB** Gain and **18dB** Gain until satisfactory.
- Set the **GAIN** to **18dB**.
- Change the Oscilloscope to TP203.
- Set the Lens Iris so that the Video signal level becomes 700 ± 10 mV as shown in Fig. 5-1-44.
- Change the Oscilloscope to TP103.
- Confirm that the Video signal becomes 700 ± 10 mV as shown in Fig. 5-1-44.
If not readjust VR105.
- Repeat adjustment between **0dB** Gain and **18dB** Gain until satisfactory.
- Change the Oscilloscope to TP303.
- Confirm that the Video signal becomes 700 ± 10 mV, if not readjust VR305.
- Repeat adjust between **0dB** Gain and **18dB** Gain until satisfactory.

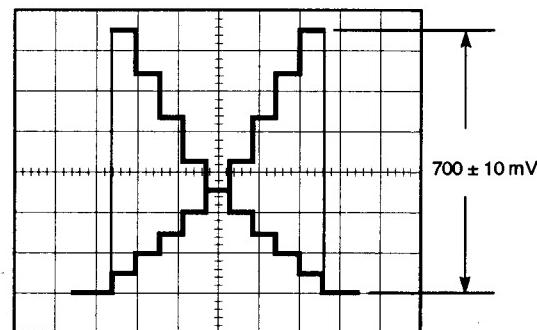


Fig. 5-1-44

(26) White Balance Adjustment

Test Point:	VIDEO OUT CONNECTOR	Rear Panel
Adjust:	VR111 (2000°K WB)	Preprocess Board
	VR311 (10000°K WB)	Preprocess Board

- Press the **UP (ABC)** switch on the Rear Panel.
- Set the Colour Temperature of the Lighting to 3,200 °K.
- Press the **ITEM (AWC)** switch.
- Set the Gain Control of the Vectorscope to maximum.
- Confirm that the vector positions at the center of the Vectorscope.
- Change the Colour Temperature of the Lighting to 2,000 °K.
- Press the **ITEM (AWC)** switch.
- Adjust VR111 so that the vector positions at the center of the Vectorscope as shown in Fig. 5-1-45.
- Change the Colour Temperature of the Lighting to 10,000 °K.
- Press the **ITEM (AWC)** switch.
- Adjust VR311 so that the vector positions at the center of the Vectorscope as shown in Fig. 5-1-45.

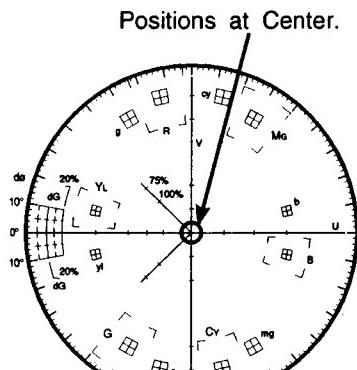


Fig. 5-1-45

(27) Knee Adjustment

Test Point: VIDEO OUT CONNECTOR **Rear panel**

TP203 (G GAIN-2)	Preprocess Board
Adjust: VR107 (R KNEE)	Preprocess Board
VR207 (G KNEE)	Preprocess Board
VR307 (B KNEE)	Preprocess Board

- Set the Colour Temperature of the Lighting to 3,200 °K.
- Aim the Camera at the Logarithmic Gray Scale Chart.
- Connect the Oscilloscope to TP203.
- Set the Lens Iris so that the Video signal level becomes 100 %.
- Press the PAGE switch more than 3 seconds, then set the GAIN to 0dB.
- Set the GAIN to 9dB.
- Set the Gain Control of the Vectorscope to maximum.
- Adjust VR107 so that the vector positions at the center of the Vectorscope as shown in Fig. 5-1-46.
- Adjust VR207 so that the vector positions at the center of the Vectorscope as shown in Fig. 5-1-46.
- Adjust VR307 so that the vector positions at the center of the Vectorscope as shown in Fig. 5-1-46.

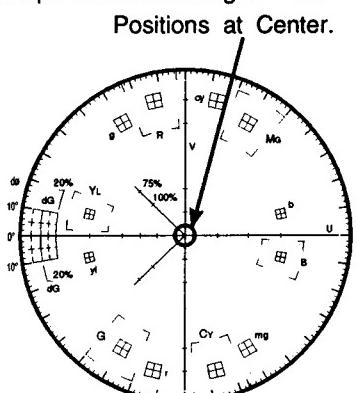


Fig. 5-1-46

- Set the GAIN to 0dB.
- Open the Lens Iris one click (1F step).
- Confirm that the vector positions at the center of the Vectorscope.

5.2. Adjustment Procedure for WV-PS550

Refer to the Location of the Test Points and Adjusting Controls on page 62.

(1) 89.0V Adjustment

Test Point: TP1 (89.0V) **Power Board**

Adjustment: VR1 (89.0V) **Power Board**

- Connect the Digital Voltmeter to TP1 .
- Adjust VR1 to obtain 89.0 ± 0.1 V.

■ When adjusting the Modulator Board, use Extension Board (Part No. : YWV0EA0158AN) as shown in page 39.

(2) Video Gain 1 Adjustment

Test Point: TP1 (VIDEO) **Modulator Board**

Adjust: VR1 (VIDEO GAIN) **Modulator Board**

- Connect the Oscilloscope to TP1.
- Trigger the Oscilloscope at H rate.
- Adjust VR1 so that the Video signal level becomes 0.8 ± 0.01 Vp-p as shown in the Fig. 5-2-1.

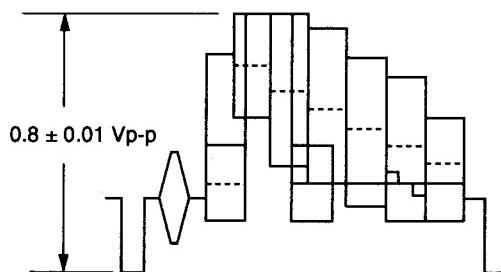


Fig. 5-2-1

(3) Video Gain 2 Adjustment

Test Point: TP10 (MPX) **Modulator Board**

Adjust: VR2 (MPX GAIN) **Modulator Board**

- Connect the Oscilloscope to TP10.
- Trigger the Oscilloscope at H rate.
- Adjust VR2 so that the Video signal level becomes 3.0 ± 0.05 Vp-p as shown in the Fig. 5-2-2.

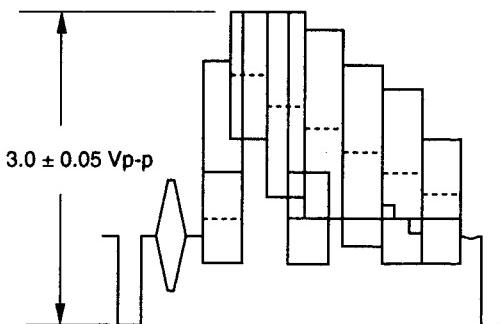


Fig. 5-2-2

(4) Command Modulation Adjustment

Test Point: TP10 (MPX) **Modulator Board**
Adjust: VR5 (COMMAND CARRIER-1) **Modulator Board**
VR6 (COMMAND CARRIER-2) **Modulator Board**

- Connect the Oscilloscope to TP10.
- Trigger the Oscilloscope at V rate.
- Set VR5 to its mechanical center position and VR3 to fully clockwise.
- Adjust VR6 so that the carrier on the signal becomes minimum as shown in the Fig. 5-2-3.

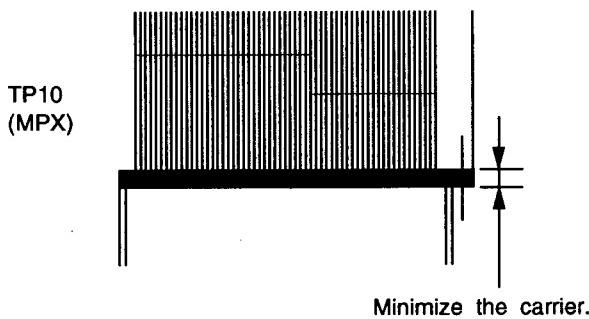


Fig. 5-2-3

(5) Command Level Adjustment

Test Point: TP10 (MPX) **Modulator Board**
Adjust: VR3 (COMMAND LEVEL) **Modulator Board**

- Connect the Oscilloscope to TP10.
- Trigger the Oscilloscope at V rate.
- Adjust VR3 so that the carrier on the Command signal becomes 0.5 ± 0.01 Vp-p as shown in the Fig. 5-2-4.



Fig. 5-2-4

(6) AGC Pulse Adjustment

Test Point: TP3 (V-SYNC) **Modulator Board**
TP4 (AGC PULSE) **Modulator Board**
Adjust: VR4 (AGC PULSE PHASE) **Modulator Board**
VR11 (AGC PULSE WIDTH) **Modulator Board**

- Connect CH1 of the Oscilloscope to TP3 and CH2 of the Oscilloscope to TP4, and set dual display mode.
- Trigger the Oscilloscope at V rate.
- Expand the AGC Pulse period on the Oscilloscope.
- Adjust VR4 so that the AGC Pulse Phase becomes 200 ± 5 μ sec. as shown in the Fig. 5-2-5.
- Adjust VR11 so that the AGC Pulse Width becomes 100 ± 5 μ sec. as shown in the Fig. 5-2-5.

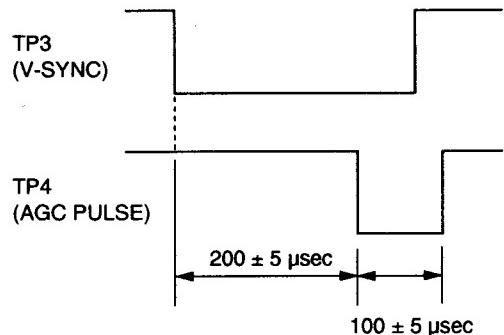


Fig. 5-2-5

(7) AGC Cancel Adjustment

Test Point: TP3 (V-SYNC) **Modulator Board**
TP5 (AGC CANCEL) **Modulator Board**
Adjust: VR7 (AGC CANCEL) **Modulator Board**

- Connect CH1 of the Oscilloscope to TP3 and CH2 of the Oscilloscope to TP5, and set dual display mode.
- Trigger the Oscilloscope at V rate.
- Expand the AGC Cancel signal period on the Oscilloscope.
- Adjust VR7 so that the AGC Cancel signal phase becomes 340 ± 5 μ sec. as shown in the Fig. 5-2-6.

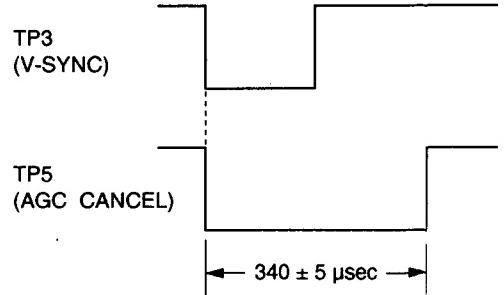


Fig. 5-2-6

(8) Data Cancel Pulse Adjustment

Test Point: TP3 (V-SYNC) **Modulator Board**
TP6 (DATA CANCEL) **Modulator Board**

Adjust: VR8 (DATA CANCEL) **Modulator Board**

- Connect two probes of the Oscilloscope to TP3 and TP6, and set dual display mode.
- Trigger the Oscilloscope at V rate.
- Expand the Data Cancel Pulse period on the Oscilloscope.
- Adjust VR8 so that the Data Cancel Pulse Phase becomes $100 \pm 5 \mu\text{sec}$. as shown in the Fig. 5-2-7.

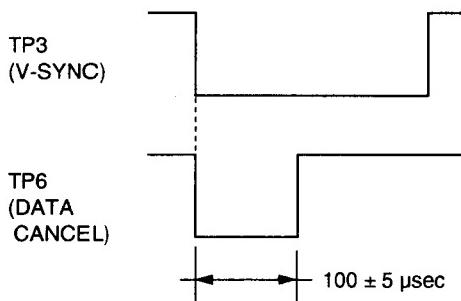


Fig. 5-2-7

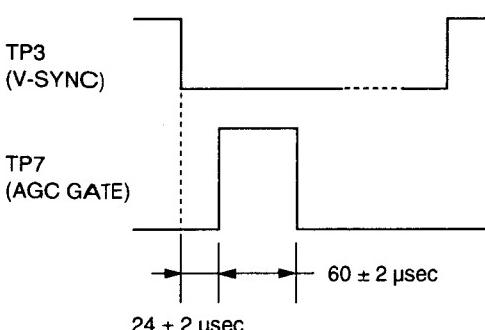
(9) AGC Gate Pulse Adjustment

Test Point: TP3 (V-SYNC) **Modulator Board**
TP7 (AGC GATE) **Modulator Board**

Adjust: VR9 (AGC GATE PHASE) **Modulator Board**
VR10 (AGC PULSE) **Modulator Board**

- Connect two probes of the Oscilloscope to TP3 and TP7, and set dual display mode.
- Trigger the Oscilloscope at V rate.
- Expand the AGC Gate period on the Oscilloscope.
- Adjust VR9 so that the AGC Gate Pulse Phase becomes $24 \pm 2 \mu\text{sec}$. as shown in the Fig. 5-2-8.
- Adjust VR10 so that the AGC Gate Pulse Width becomes $60 \pm 2 \mu\text{sec}$. as shown in the Fig. 5-2-8.

Fig. 5-2-8



(10) Confirmation of 17 MHz Carrier Level

Test Point: TP8 (17MHz) **Modulator Board**

- Connect the Oscilloscope to TP8.
- Confirm that the 17MHz Carrier level becomes 800 mVp-p as shown in the Fig. 5-2-9.

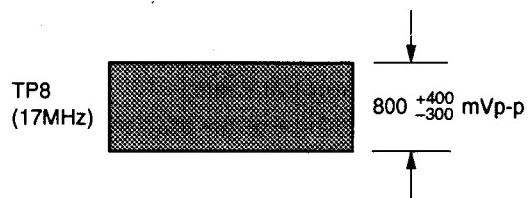


Fig. 5-2-9

- When adjusting the Demodulator Board, use Extension Board (Part No. : YWV0EA0158AN) as shown in page 39.

(11) Command AGC Pulse Adjustment

Test Point: TP5 (COMMAND AGC) **Demodulator Board**

Adjust: VR4 (COMMAND LEVEL) **Demodulator Board**

- Connect the Oscilloscope to TP5.
- Adjust VR4 so that the Command level of the first AGC signal becomes $0.45 \pm 0.01 \text{ Vp-p}$ as shown in the Fig. 4-2-10.

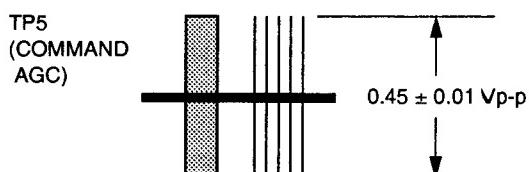


Fig. 4-2-10

(12) Confirmation of Command AGC DC Level

Test Point: TP6 (COMMAND AGC DC) **Demodulator Board**

- Connect the Oscilloscope to TP6.
- Set the Oscilloscope to DC mode.
- Confirm that the DC level of the Command AGC DC signal becomes less than 2.5 V DC as shown in the Fig. 4-2-11.

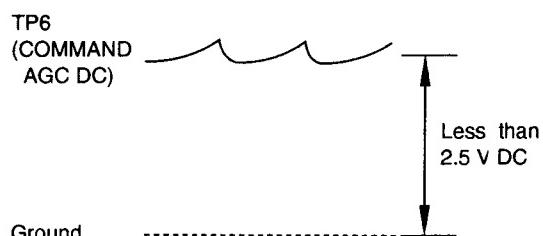


Fig. 4-2-11

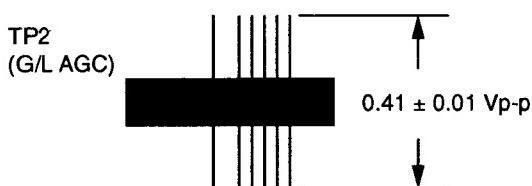
13) G/L AGC Level Adjustment

Test Point: TP2 (G/L AGC) **Demodulator Board**

Adjust: VR1 (G/L LEVEL) **Demodulator Board**

- Supply the Black Burst signal or Colour Bar signal to the Gen-Lock Input Connector of the WV-RC700A.
- Connect the Oscilloscope to TP2.
- Adjust VR1 so that the Command level of the Gen-Lock signal becomes 0.41 ± 0.01 Vp-p as shown in the Fig. 4-2-12.

Fig. 4-2-12



(14) Confirmation of G/L AGC DC Level

Test Point: TP3 (G/L AGC DC) **Demodulator Board**

- Connect the Oscilloscope to TP3.
- Set the Oscilloscope to DC mode.
- Confirm that the DC level of the G/L AGC signal becomes less than 3.0 V DC as shown in the Fig. 4-2-13.

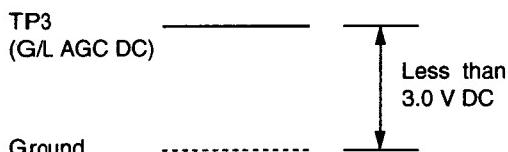


Fig. 4-2-13

(15) G/L Sync Level Adjustment

Test Point: Pin 22 (GEN-LOCK OUT)
Extension Board

Adjust: VR2 (G/L SYNC LEVEL)
Demodulator Board

- Supply the Black Burst signal or Colour Bar signal to the Gen-Lock Input Connector of the WV-RC700A.
- Connect the Oscilloscope to Pin 22 on the Extension Board.
- Adjust VR2 so that the Sync level of the Gen-Lock signal becomes 0.5 ± 0.02 Vp-p as shown in the Fig. 4-2-14.

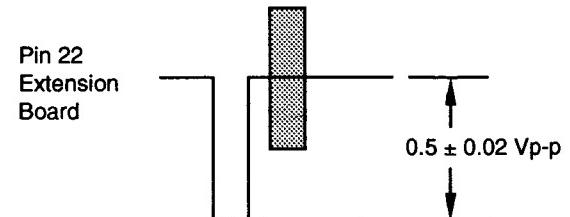


Fig. 4-2-14

(16) G/L Burst Level Adjustment

Test Point: Pin 22 (GEN-LOCK OUT)

Extension Board

Adjust: CT1 (G/L DOM) **Demodulator Board**
VR3 (G/L BURST LEVEL)
Demodulator Board

- Supply the Black Burst signal or Colour Bar signal to the Gen-Lock Input Connector of the WV-RC700A.
- Connect the Oscilloscope to Pin 22 on the Extension Board.
- Adjust CT1 so that the Burst level of the Gen-Lock signal becomes maximum.
- Adjust VR3 so that the Burst level of the Gen-Lock signal becomes 0.5 ± 0.02 Vp-p as shown in the Fig. 4-2-15.

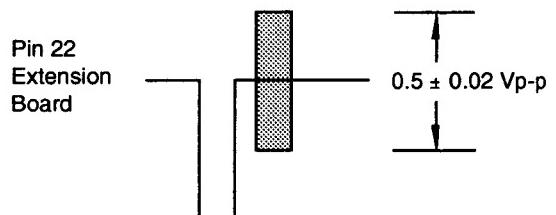


Fig. 4-2-15

- Before start to adjust the Audio Board, two switches on the Audio board are as follows:

SW1: Audio position

SW2: ON position

(17) 11.2MHz Adjustment

Test Point: TP2 (11.2MHz) **Audio Board**

Adjust: L2 (11.2MHz) **Audio Board**

- Connect the Oscilloscope to TP2.
- Adjust L2 so that the carrier level becomes maximum.
- Connect the Frequency Counter to TP2.
- Adjust L2 so that the carrier frequency becomes 11.202 ± 0.001 MHz.

(18) Modulator DC Level Adjustment

Test Point: TP3 (5.0V) **Audio Board**
Adjust: L3 (5.0V) **Audio Board**

- Connect the Digital Voltmeter to TP3.
- Adjust L3 to obtain 5.0 ± 0.1 V.

(19) Intercom MPX Carrier Adjustment

Test Point: TP10 (MPX) **Modulator Board**
Adjust: VR1 (MPX CARRIER) **Audio Board**

- Set SW2 on the Audio Board to ON.
- Connect the Oscilloscope to TP10 on the Modulator Board.
- Adjust VR1 so that the carrier level becomes 0.6 ± 0.05 Vp-p as shown in the Fig. 4-2-16.

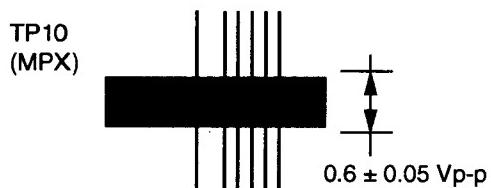
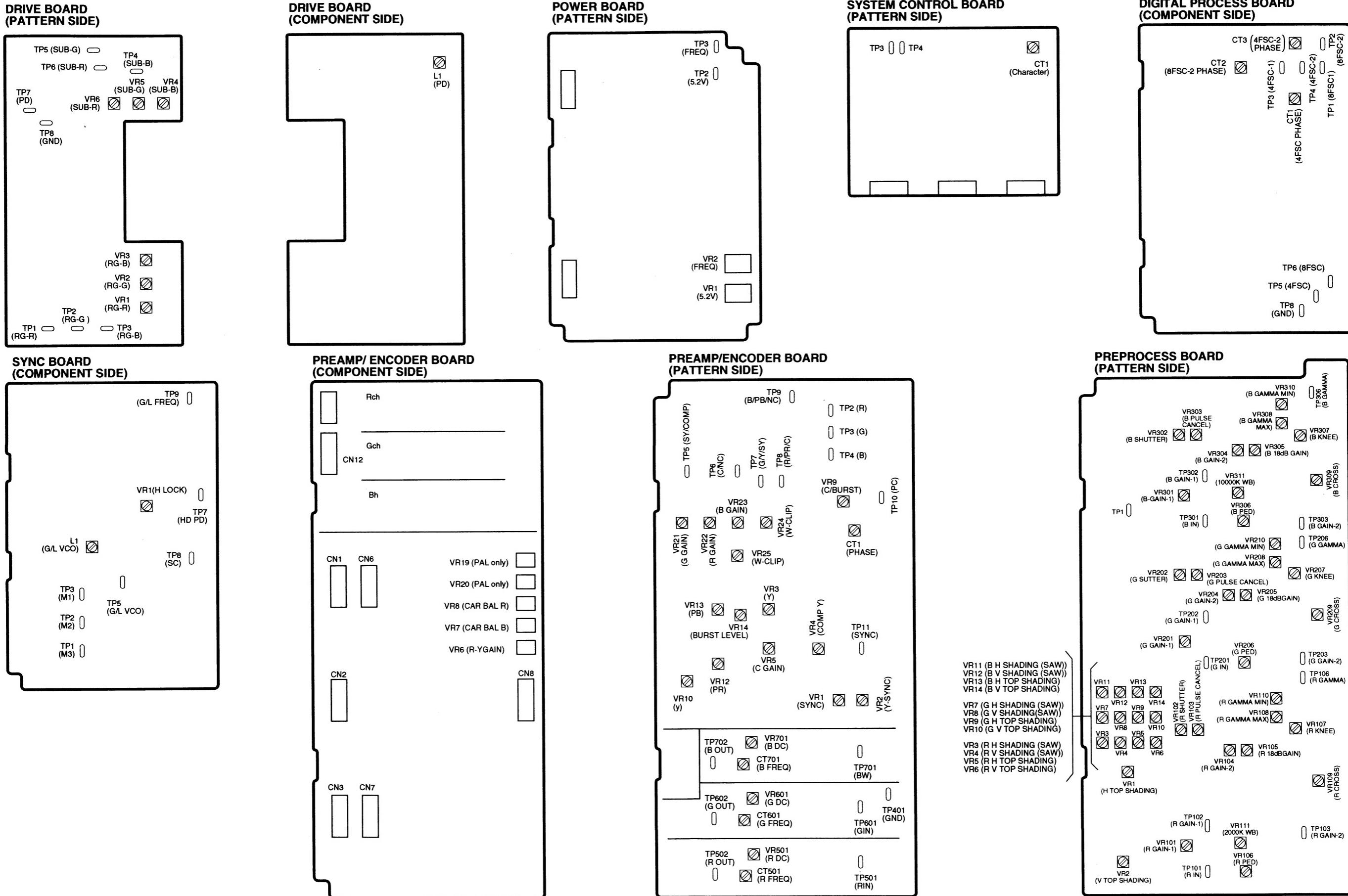
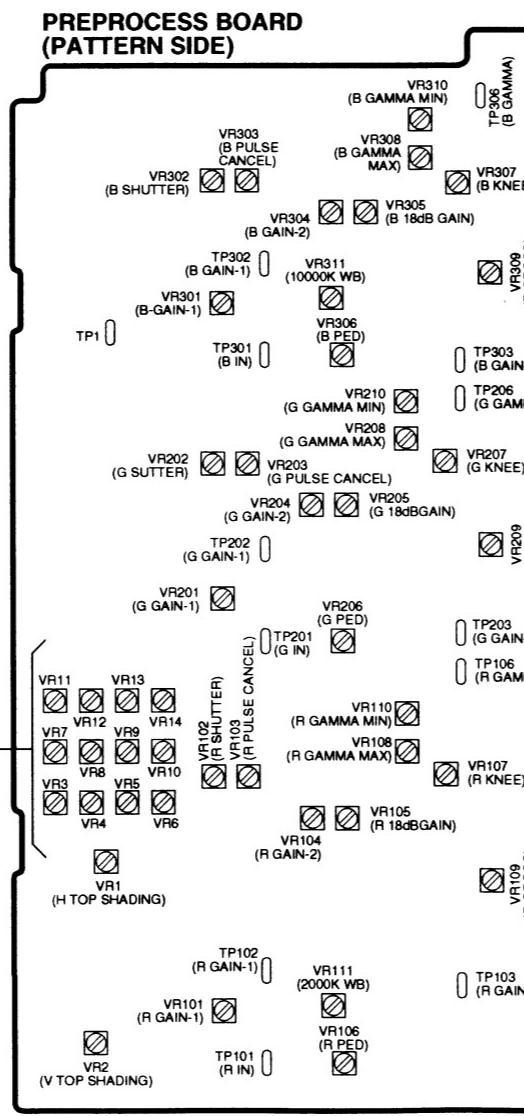
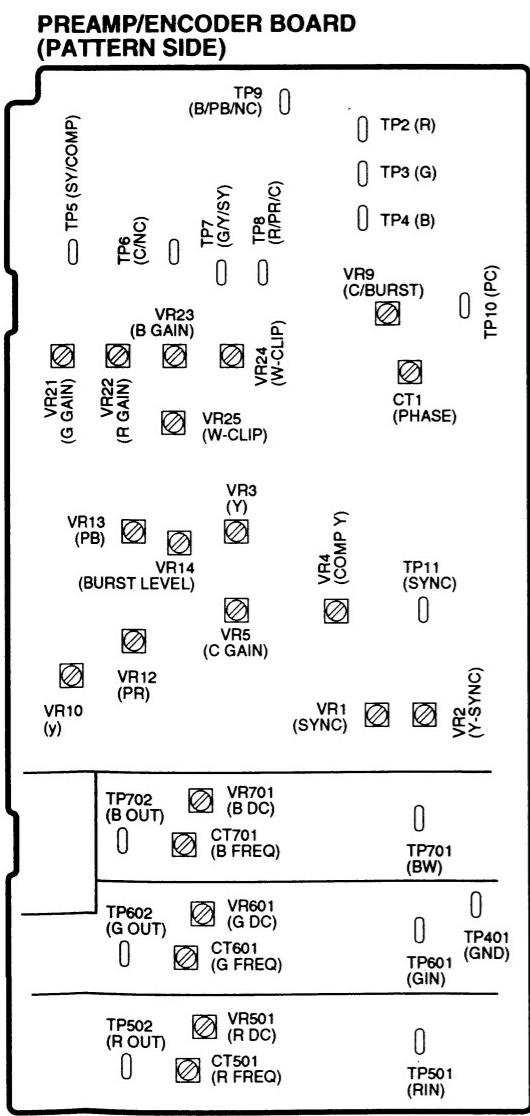
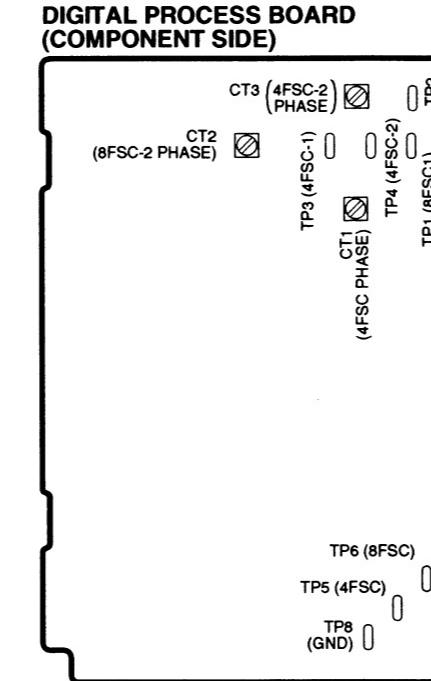
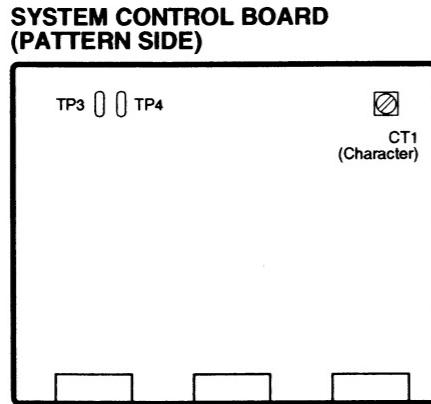
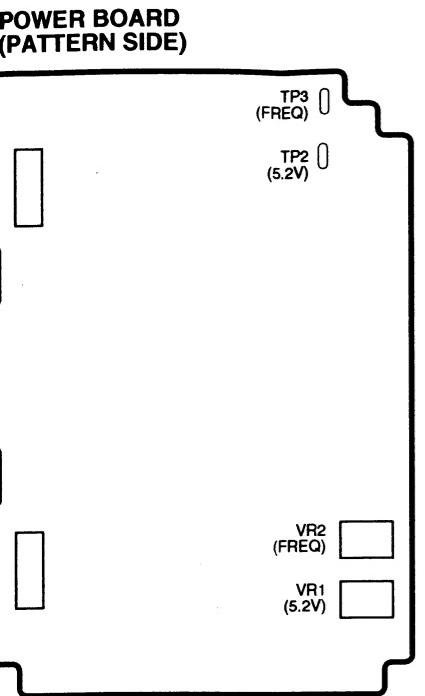


Fig. 4-2-16

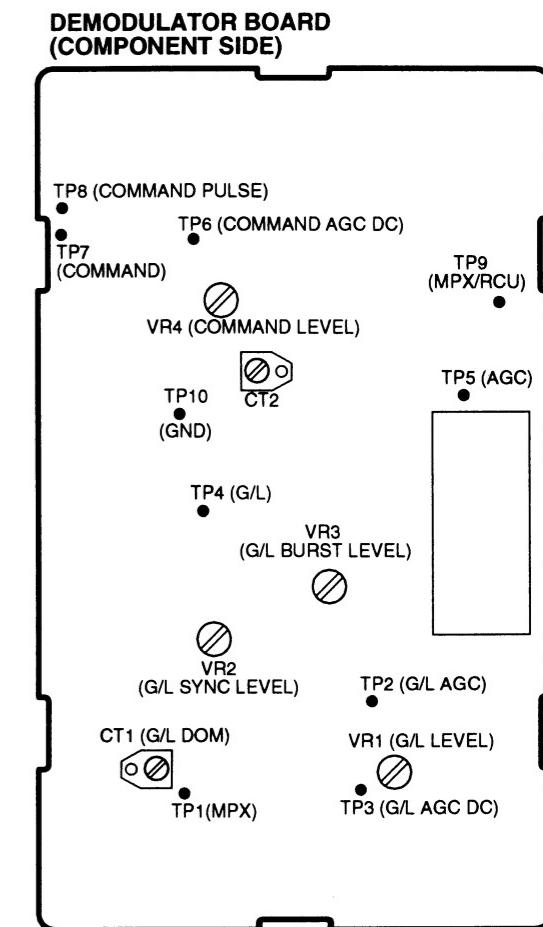
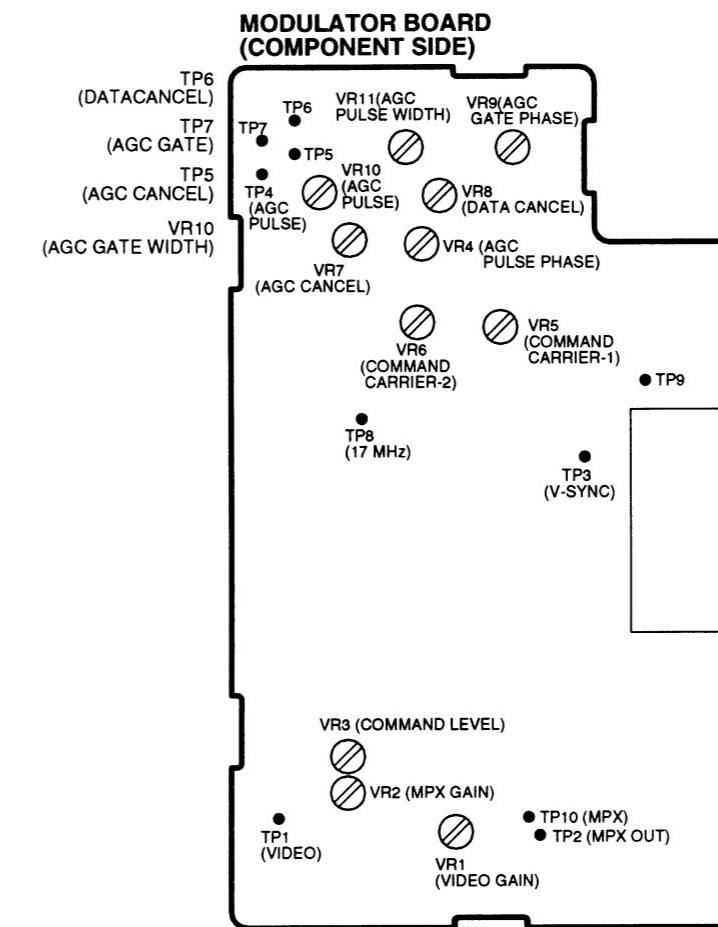
LOCATION OF TEST POINTS AND ADJUSTING CONTROLS (WV-E550E)



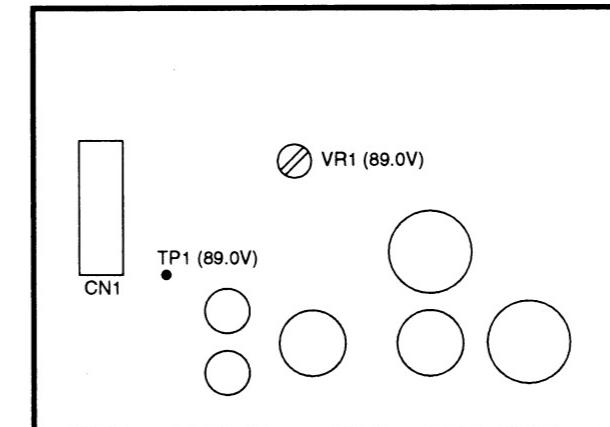
ADJUSTMENTS AND ADJUSTING CONTROLS (WV-E550E)



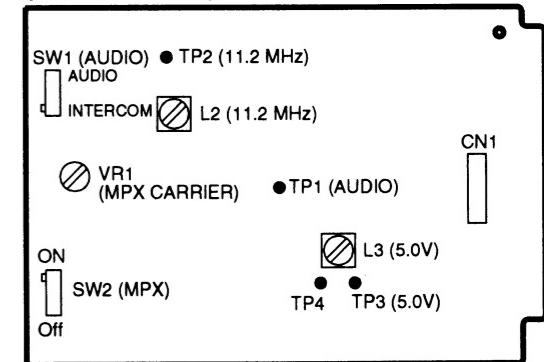
(WV-PS550)



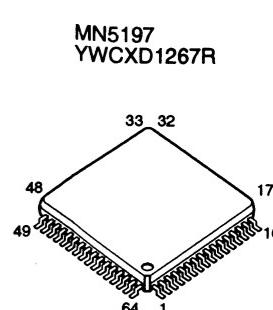
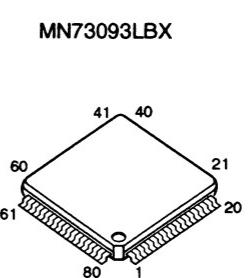
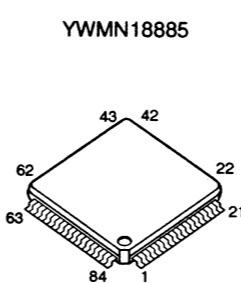
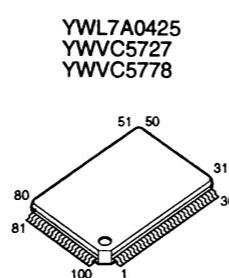
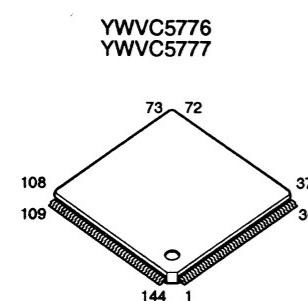
POWER SEPARATOR (COMPONENT SIDE)



AUDIO BOARD (PATTERN SIDE)



APPEARANCE OF IC, TRANSISTOR AND DIODE WV-E550E



UPD16502GS
MB3782PF
MN6557AS
YWM62352GP

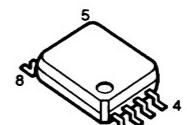
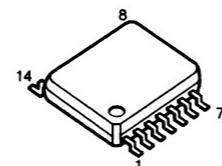
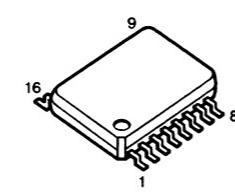
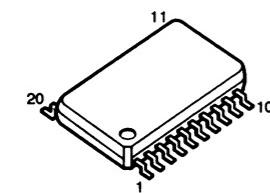
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YWUPD74HC4053G
YWUPD4052BG

YWUPD4050BG
YWUPD4053BG
YWUPD4051BG
YWMC74HC4040AF

YWTC74AC04
NJM2902V, NJM2902M
YWUPD74HC32G
YWUPD74HC04G
YWUPD74HC08G
YWTC74AC74F
YWTC74AC00F
YWTC74AC08F
UPD74HC164G

YWTC74AC164F
NJM2903M
YWUPD4081BG
YWUPD4011BG
RTC450315B
YWUPC4064G2
YWMC74HC10AF
YWMC74HC74AF
YWUPD4066BG

YWUPC4062G2
NJM2904M
NJM2903M
YWTC7W04FU
YWTC7W04FL
NJM3414M
NJM4556M
YWLM1881M
YWTC7W04FL



2SC1610
2SA1532
2SA1532-CD
2SB1218
2SB1218-QRS
2SB1219

2SC4176
2SC3930
2SC3931
2SC39331-CD
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2SD874A-RS

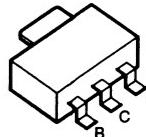
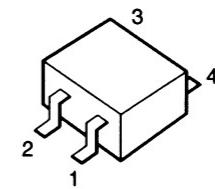
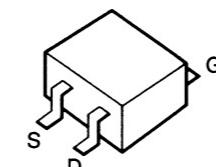
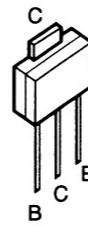
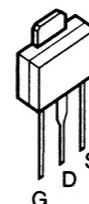
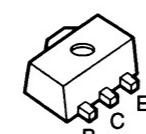
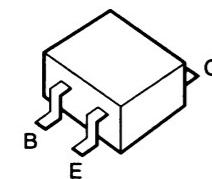
2SJ132

2SA1615
2SC3074

2SK662

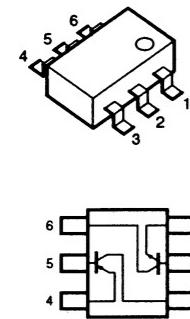
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2SB766

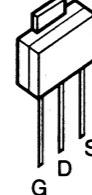


1. Substrate
2. Gate
3. Source
4. Drain

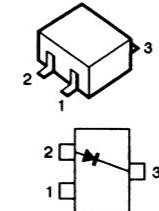
XP4601



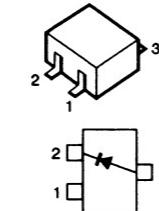
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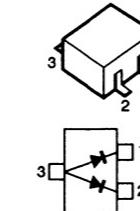
MA141K



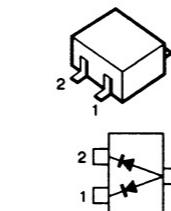
MA141A



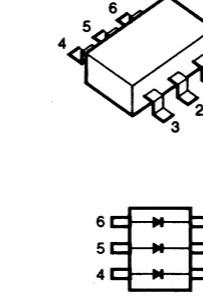
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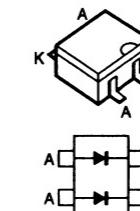
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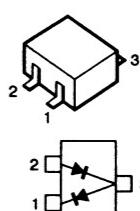
MA121



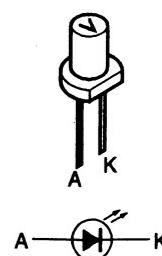
MA159



MA143



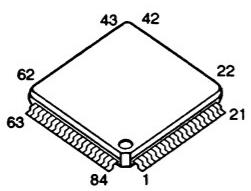
LN277RPX



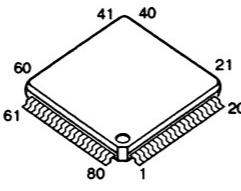
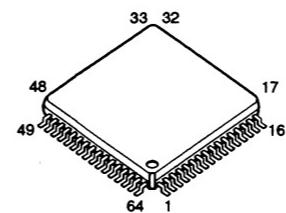
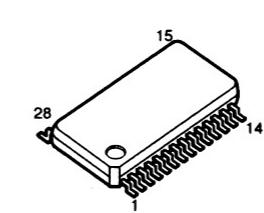
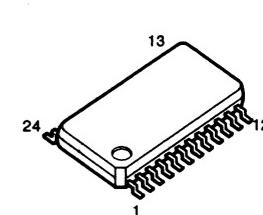
MA30

APPEARANCE OF IC, TRANSISTOR AND DIODE WV-E550E

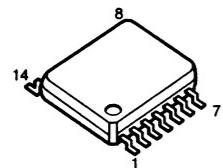
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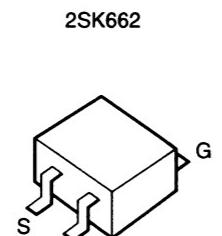
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MN5197
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YWCXD1175AM

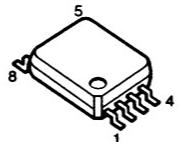
YWTC74AC04
NJM2902V, NJM2902M
YWUPD74HC32G
YWUPD74HC04G
YWUPD74HC08G
YWTC74AC74F
YWTC74AC00F
YWTC74AC08F
UPD74HC164G



YWTC74AC164F
YWUPD4081BG
YWUPD4011BG
RTC450315B
YWUPC4064G2



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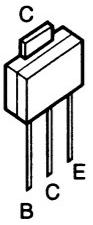
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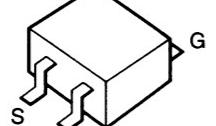
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YWTC4S69F
YWTC7S32F
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NJM78L05UA

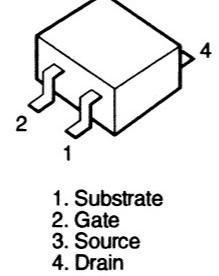
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2SC3074



2SK662



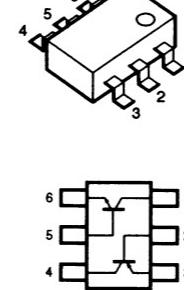
3SK157



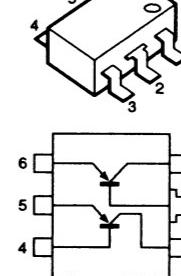
2SB766



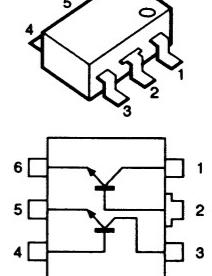
IMZ1
UMZ1



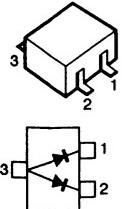
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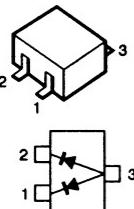
XN6534



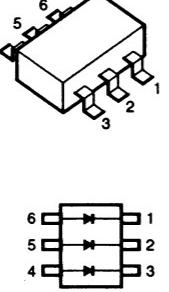
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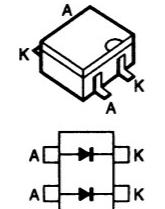
MA141WA



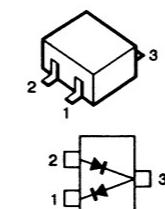
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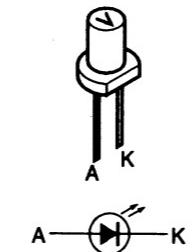
MA159



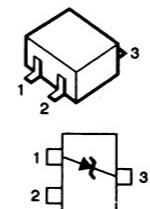
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LN277RPX



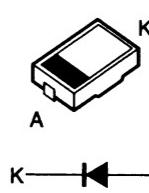
MA3062



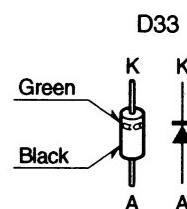
MA372



YWC80204



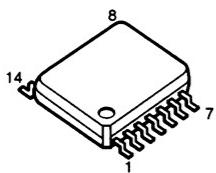
YWERB83004



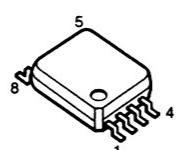
APPEARANCE OF IC, TRANSISTOR AND DIODE WV-PS550

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YWUPD74HC08G
YWUPD4538BG

NJM2903M TL092CPS
NJM4556MB TLC272CPS
NJM592M8 YWLM1881M
NJM4556MB YWUPC4062G2
NJM4560M YWUPC4570G
TLO62CPS

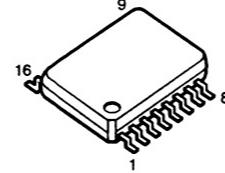


YWMU45407F



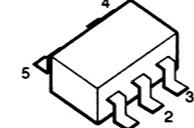
AN1431T

YWUPD4053BG
UPD74HC4050G
UPD74HC390AG
UPD74HC221AG

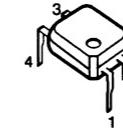


2SJ122

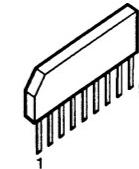
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YWTC4S69F
YWTC7S08F
YWTC7S04F
YWTC7SU04F



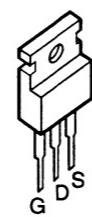
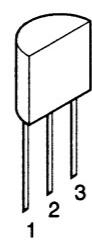
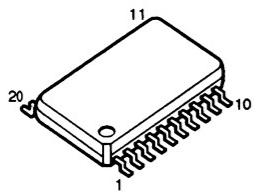
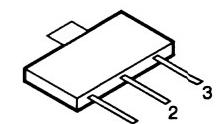
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YWEH-12A

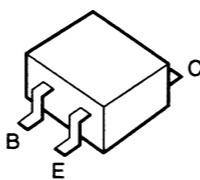


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YW78L05UATE2

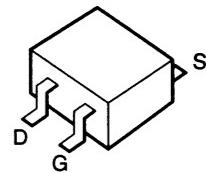


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2SB1218-QRS
2SB1219-QRS
2SC2404-CD

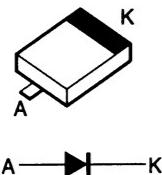
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2SD601-RS
2SD602-QRS
2SB792A-RS
2SD814-QRS



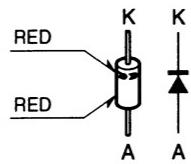
2SK198-Q
2SK662-PQR



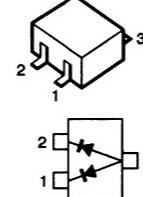
MA338



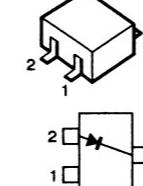
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YFRD22EB2
YWRD27EB4
YWRD15EB3



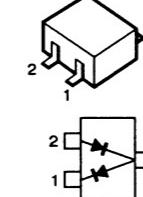
MA151WA



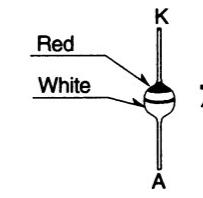
MA151K
MA141K
MA182



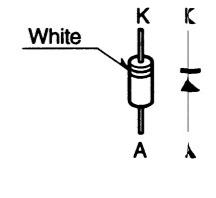
MA153
MA157



VO3G



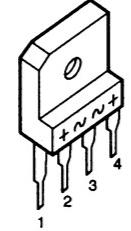
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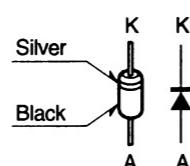
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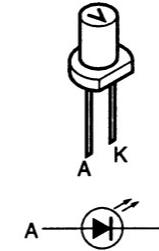
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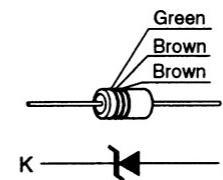
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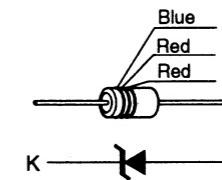
LN277PRX



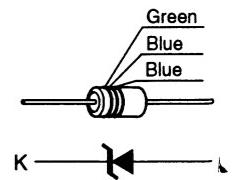
MA1051-M



MA1062-M



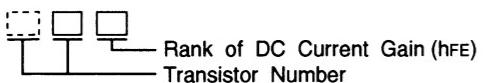
MA1056-H



CHIP COMPONENTS

1. Chip Transistor

The transistor number is indicated on the top surface of the chip transistor using two alphabet letters or one numerical number and two alphabet letters.



Transistor Number

(Chip Transistor)

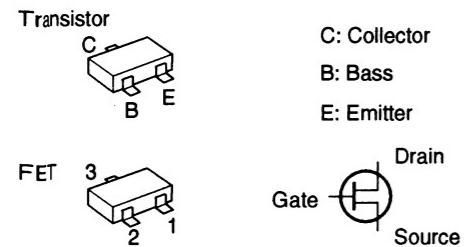
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B	2SB709A	Y	2SD601
C	2SB710	Z	2SD601A
D	2SB710A	1A	2SB799
E	2SA1022	1B	2SB814
F	2SA1034	1C	2SB902
H	2SA1035	1F	2SK321
I	2SB792	1K	2SK316
K	2SC2778	1L	2SK247
P	2SD814	1M	2SJ84
Q	2SD813	1N	2SK199
R	2SC2480	1O	2SK198
S	2SC2405	1T	2SC3077
T	2SC2406	1X	2SC2845
U	2SC2404	1Z	2SD1030
V	2SD2295	2B	2SK374
W	2SD602	2C	2SK116
BQ	2SB766A	UMT	2SC4081

(Small Chip Transistor)

Letter	Transistor No.
A	2SB1218
B	2SB1218A
D	2SB1219A
U	2SC3931
W	2SD1820
X	2SD1820A
Y	2SD1819
E3	2SA1226
OS	2SB1219
UC	2SA1532
YU	2SC3938

Example: WQ → 2SD602-Q
YQ → 2SD601-Q
1BS → 2SB814-S

Appearance and Symbols



	1	2	3
Except 2SK199	Drain	Source	Gate
2SK199	Gate	Drain	Source

2. Chip Diode

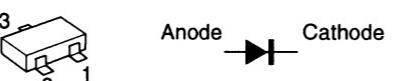
The diode number is indicated on the top surface of the chip diode using two alphabet letters.



Diode Number

Letter	Diode No.	Letter	Diode No.
MA	MA151A	MI	MA152K
MB	MA152A	MK	MA28W-B
MC	MA153	ML	MA28T-A
MD	MA28-A	MN	MA151WA
ME	MA28-B	MO	MA152WA
MF	MA28W-A	MT	MA151WK
MH	MA151K	MU	MA152WK
MH	MA141K	6.2	MA3062
MC	MA143	SMD	RD421D

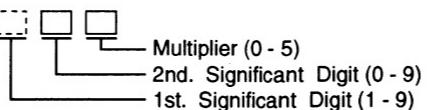
Appearance and Symbol



	1	2	3
MA28/MA28W/MA28T	—	Anode	Cathode
MA151K/MA152K	—	Anode	Cathode
MA151A/MA152A	—	Cathode	Anode
MA151WK/MA152WK	Anode	Anode	Cathode
MA151WA/MA152WA	Cathode	Cathode	Anode
MA153	Cathode	Anode	Common
MA141K	—	Anode	Cathode
MA143	Anode	Cathode	Common
MA3062	Anode	—	Cathode
RD421D	Anode	—	Cathode

3. Chip Resistor

The resistor value is indicated on the bottom surface of the chip resistor using three digit numbers.



Example:

$$330 \rightarrow 33 \times 10^0 = 33 \Omega$$

$$561 \rightarrow 56 \times 10^1 = 560 \Omega$$

$$123 \rightarrow 12 \times 10^3 = 12 k\Omega$$

Note: Zero ohm resistor (jumper chip) is colored red or green.

4. Chip Capacitor

The capacitive value of replacement chip capacitors is indicated on the bottom surface. original parts do not have value indication.

If the capacitive value is less than 100 pF, the value will be indicated by one or two digit number expressing the capacity directly in pF.

Example:

$$0.5 \rightarrow 0.5 \text{ pF}$$

$$.75 \rightarrow 0.75 \text{ pF}$$

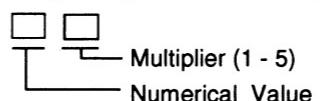
$$1 \rightarrow 1 \text{ pF}$$

$$2.5 \rightarrow 2.5 \text{ pF}$$

$$33 \rightarrow 33 \text{ pF}$$

$$82 \rightarrow 82 \text{ pF}$$

If the capacitive value is 100 pF or greater, the value will be indicated by an alpha-numeric code. The letter precedes the number and expresses a numerical value to be multiplied by the number which follows.



Numerical Value

Letter	Value	Letter	Value
A	10	N	33
B	11	P	36
C	12	Q	39
D	13	R	43
E	15	S	47
F	16	T	51
G	18	U	56
H	20	V	62
J	22	W	68
K	24	X	75
L	27	Y	82
M	30	Z	91

* Letters I and O are not used.

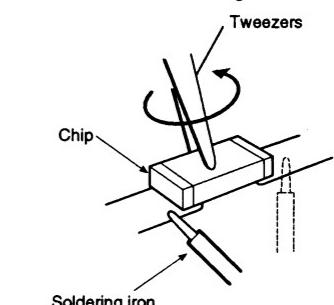
Example: A1 → $10 \times 10^1 = 100 \text{ pF}$
N2 → $33 \times 10^2 = 3300 \text{ pF}$
S3 → $47 \times 10^3 = 47000 \text{ pF}$

5. Precautions in replacing the chip component

1. Make sure that the unit is turned OFF when replacing the chip.
2. Use tweezers to prevent any damage to the chip surface.
3. Do not re-use the chips after removal.
4. Do not rub the electrode of chips.
5. Do not subject the chips to excessive stress.
6. It is recommended that a pencil-type soldering iron to be used.
7. The solder whose diameter is less than 0.5 mm is recommended.
8. Do not heat the chip beyond 3 second.
9. Maintain temperature control under 260°C (500°F) when soldering.

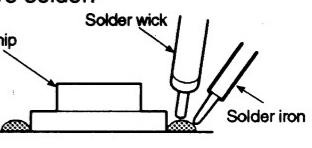
5-1 Removal (Transistor, Diode, Resistor and Capacitor)

1. Add the solder to both ends of the chip (three leads for chip transistor).
 2. While attaching the soldering iron to both ends of the chip (three leads for chip transistor) as shown below, remove the chip by turning with tweezers.
- Note:** Be careful not to damage other chips.

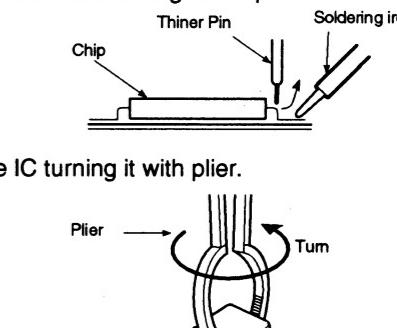


5-2 Removal (IC)

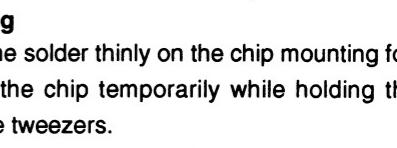
1. Add the solder wick and soldering iron to each lead of the IC and remove solder.



2. Add the soldering iron to each lead of the IC and lift each lead of the IC using thinner pin.

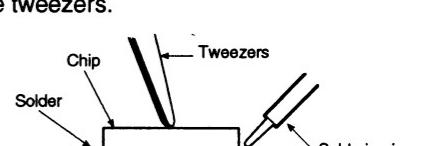


3. Remove IC turning it with plier.

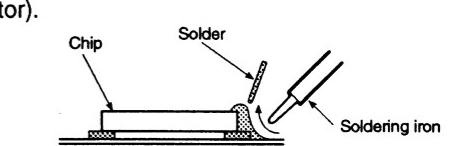


5-3 Mounting

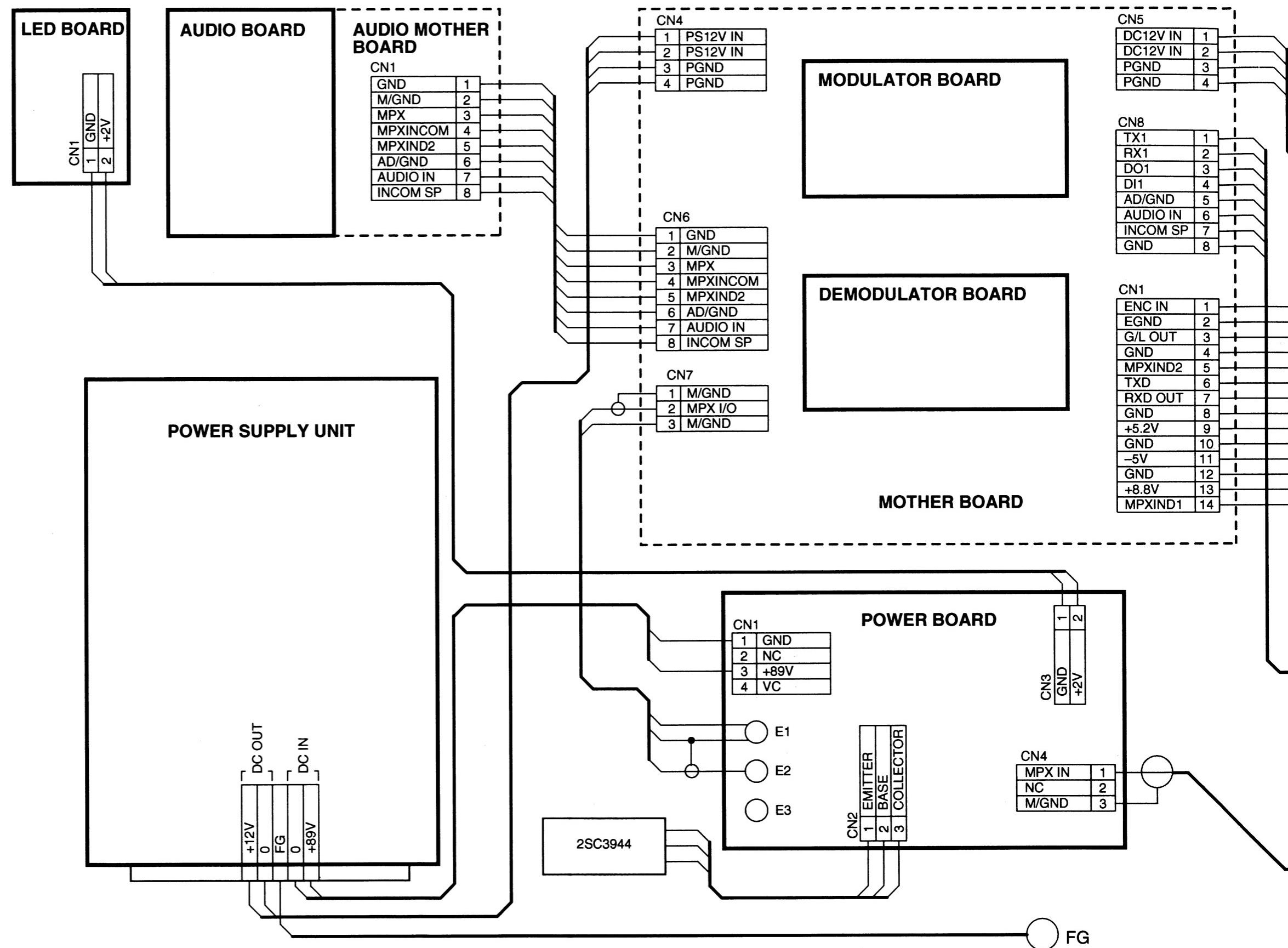
1. Place the solder thinly on the chip mounting foil.
2. Solder the chip temporarily while holding the chip with the tweezers.



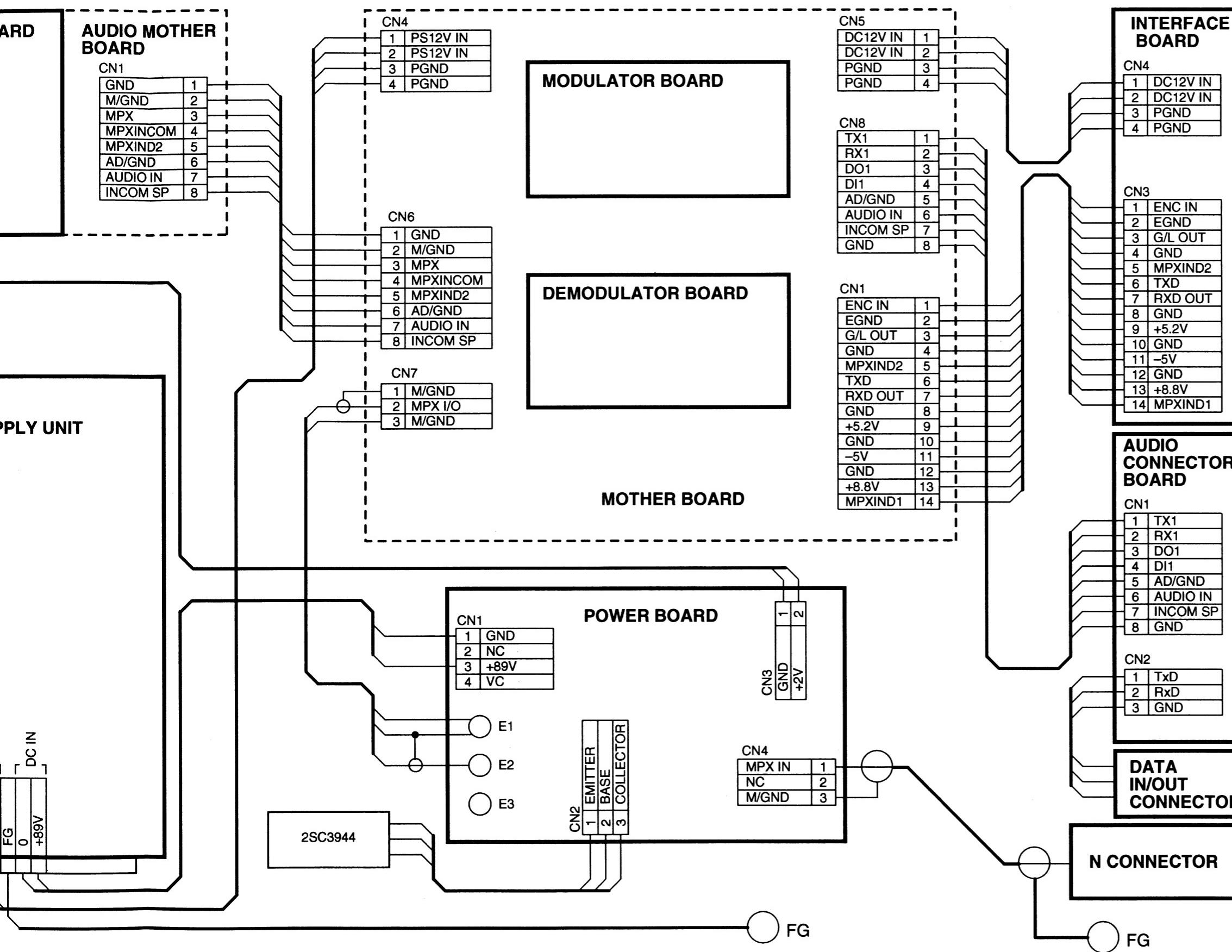
3. Solder both ends of chip (three leads for chip transistor).



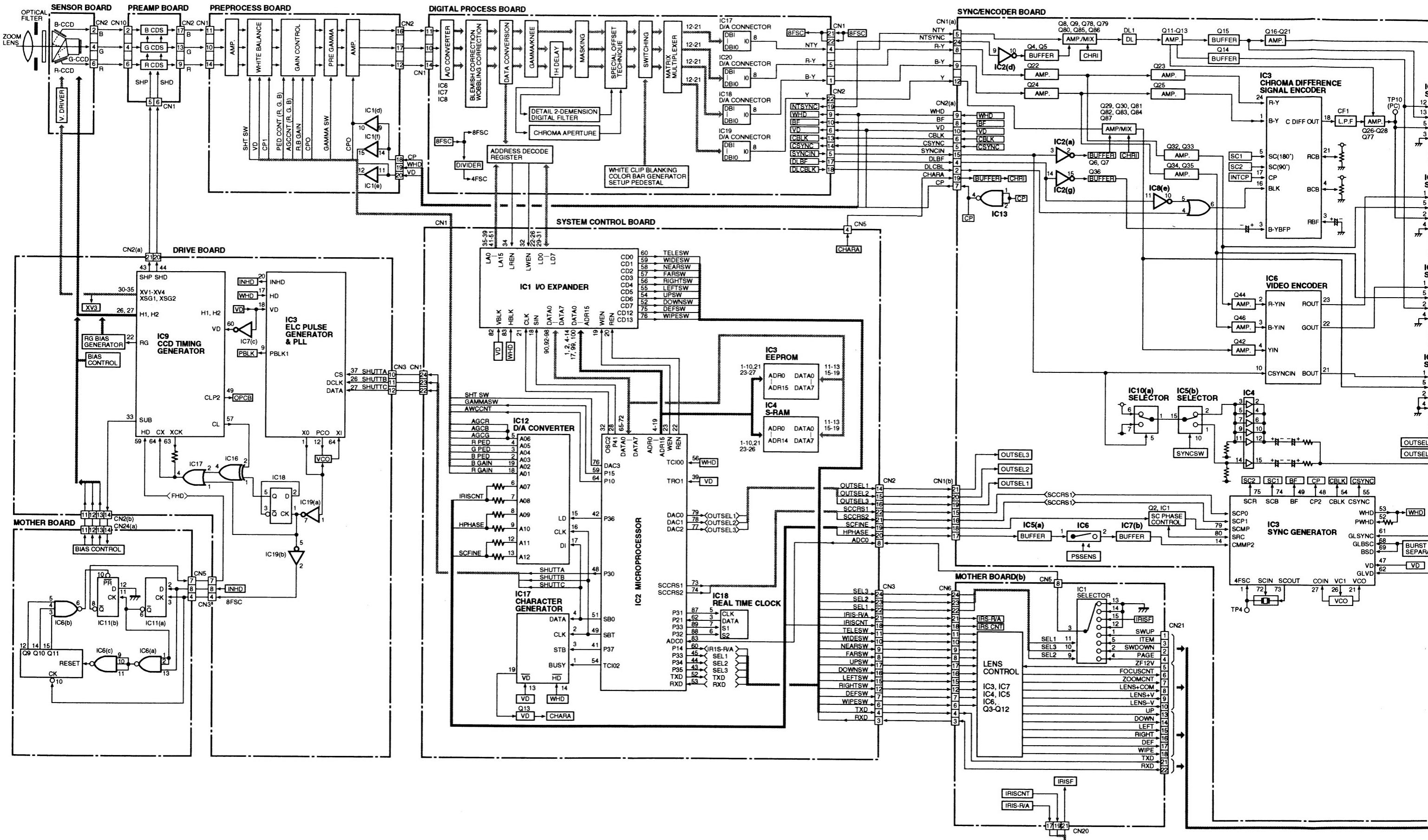
WIRING DIAGRAM (WV-PS550)



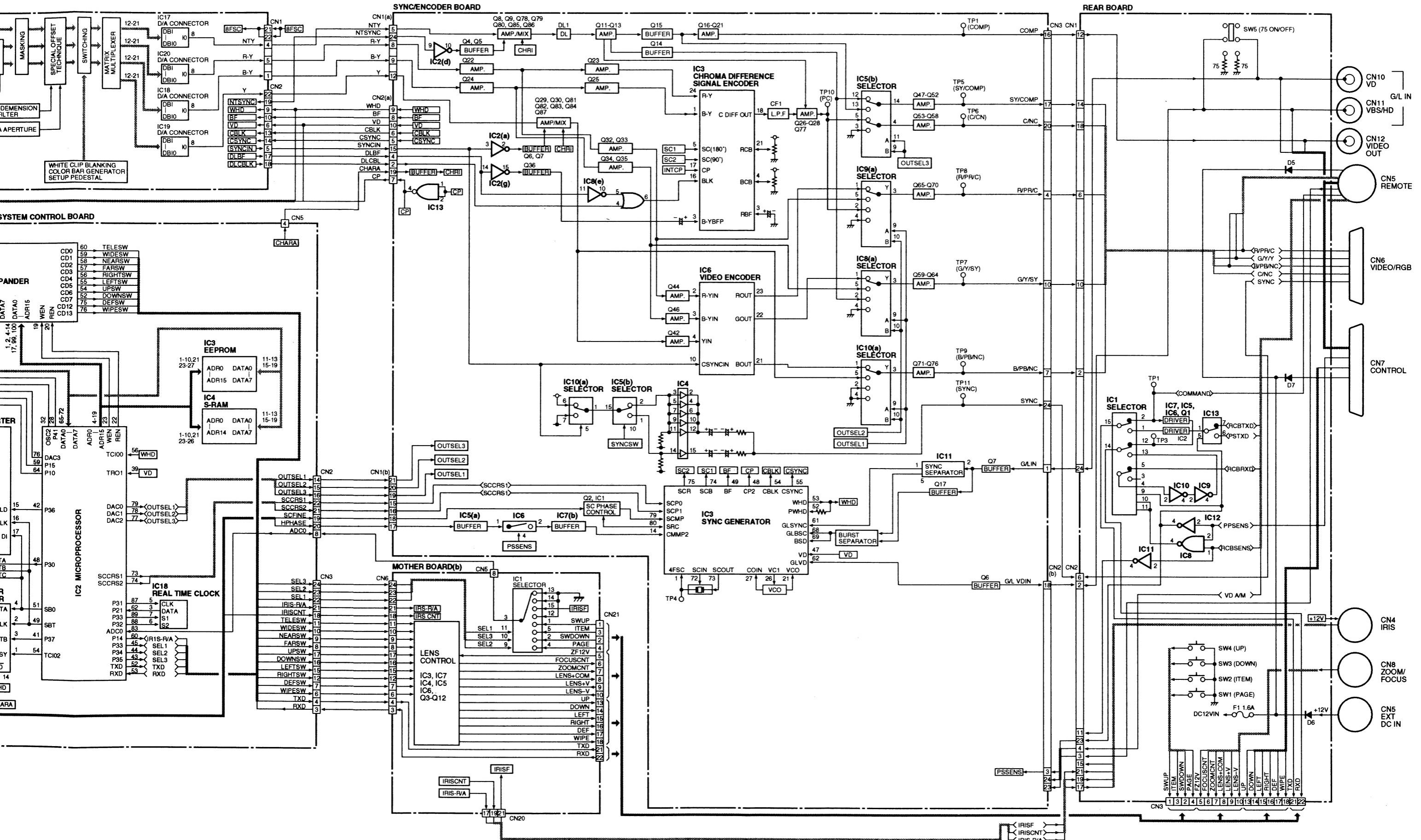
WIRING DIAGRAM (WV-PS550)



OVERALL BLOCK DIAGRAM

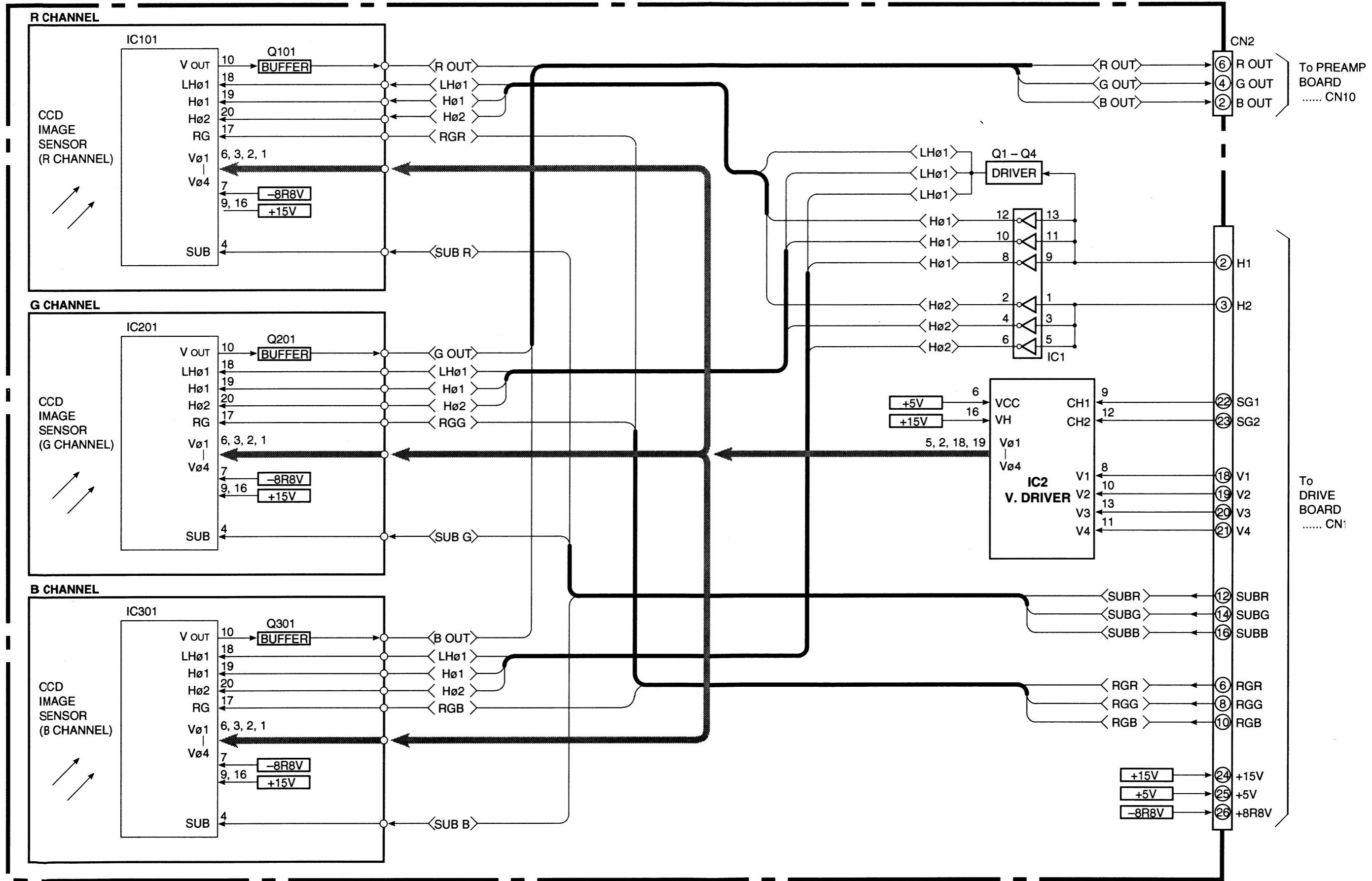


OVERALL BLOCK DIAGRAM

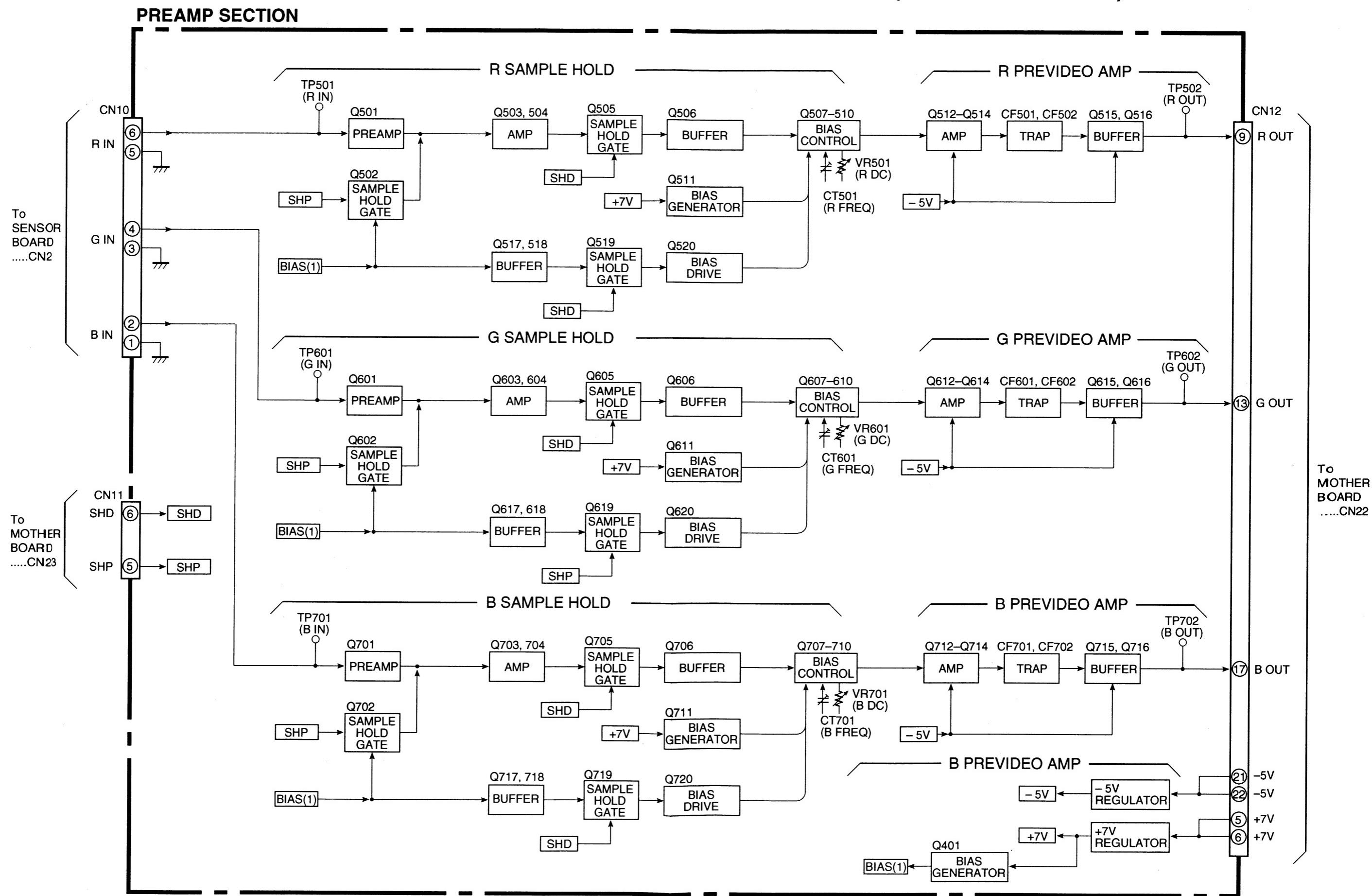


BLOCK DIAGRAM OF SENSOR BOARD

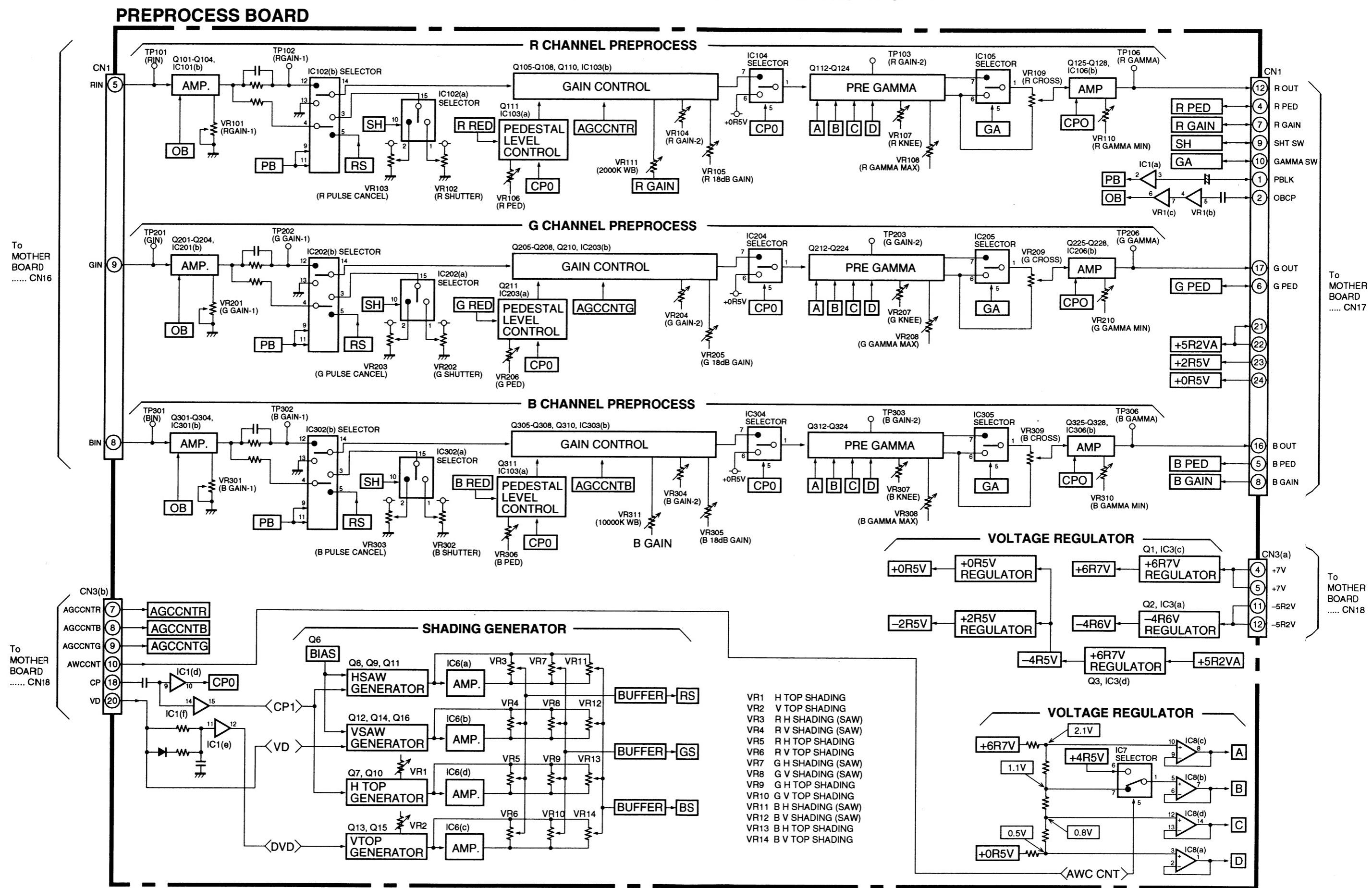
SENSOR BOARD



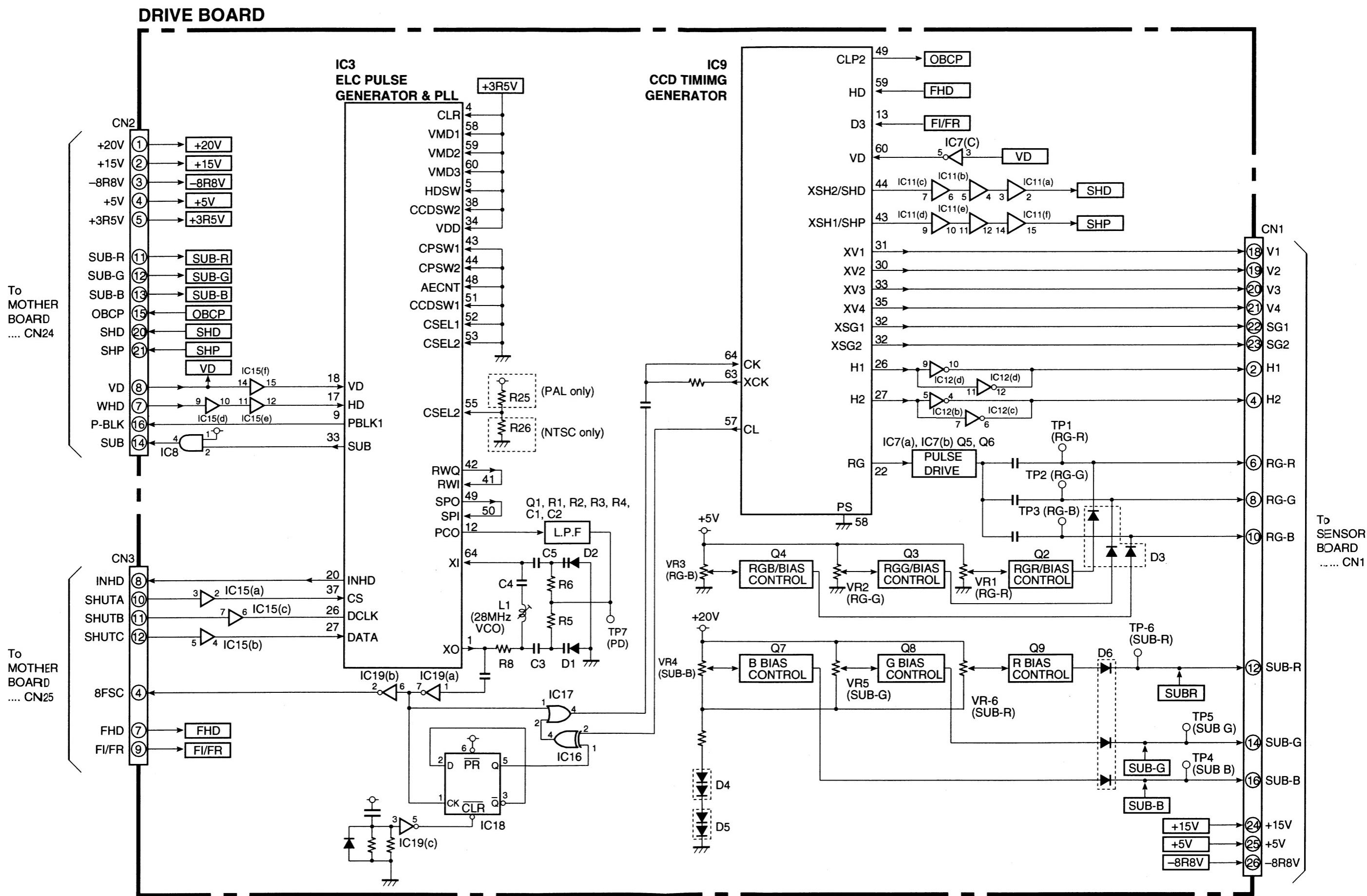
BLOCK DIAGRAM OF PREAMP/ENCODER BOARD (PREAMP SECTION)



BLOCK DIAGRAM OF PREPROCESS BOARD

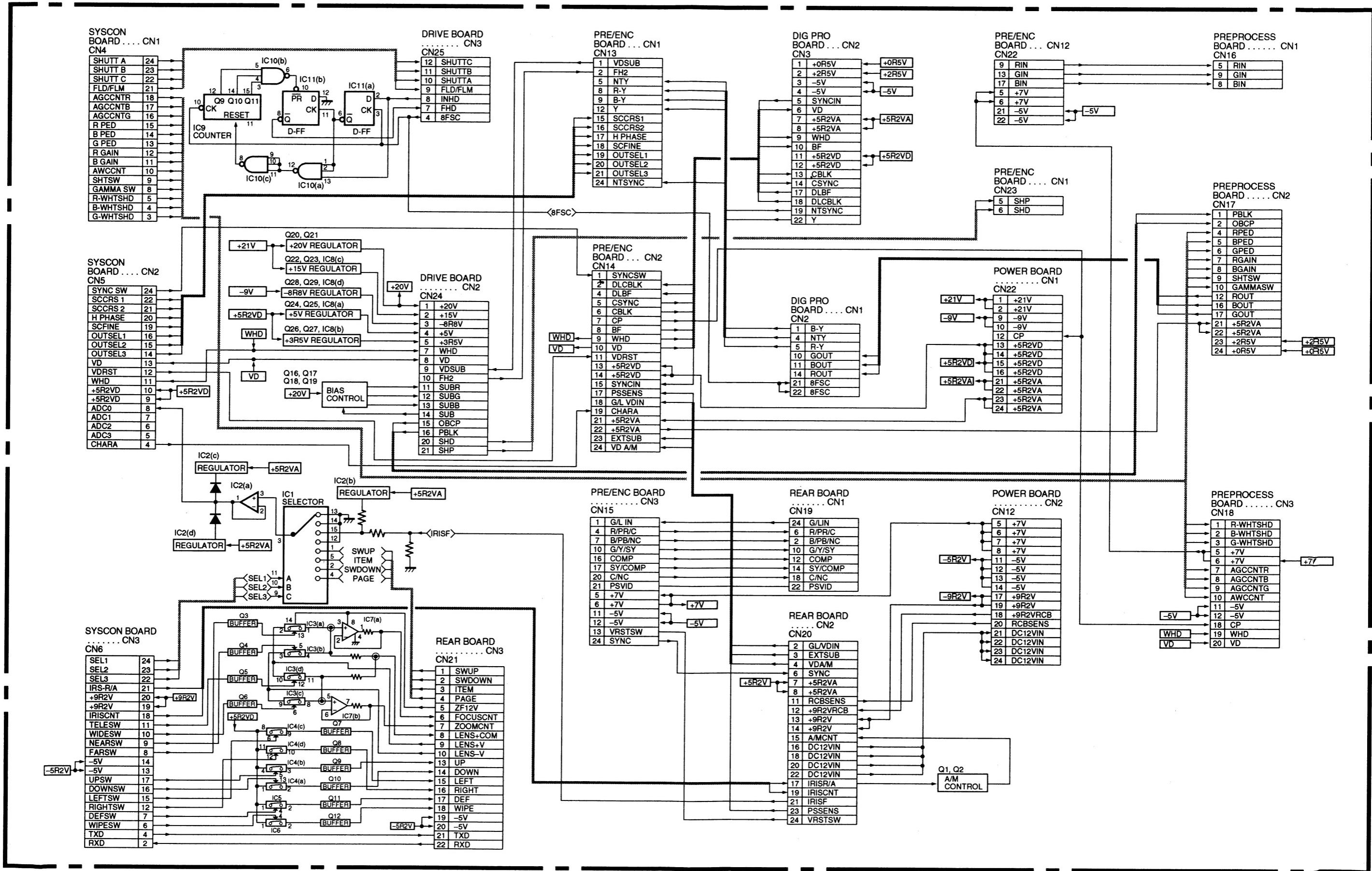


BLOCK DIAGRAM OF DRIVE BOARD



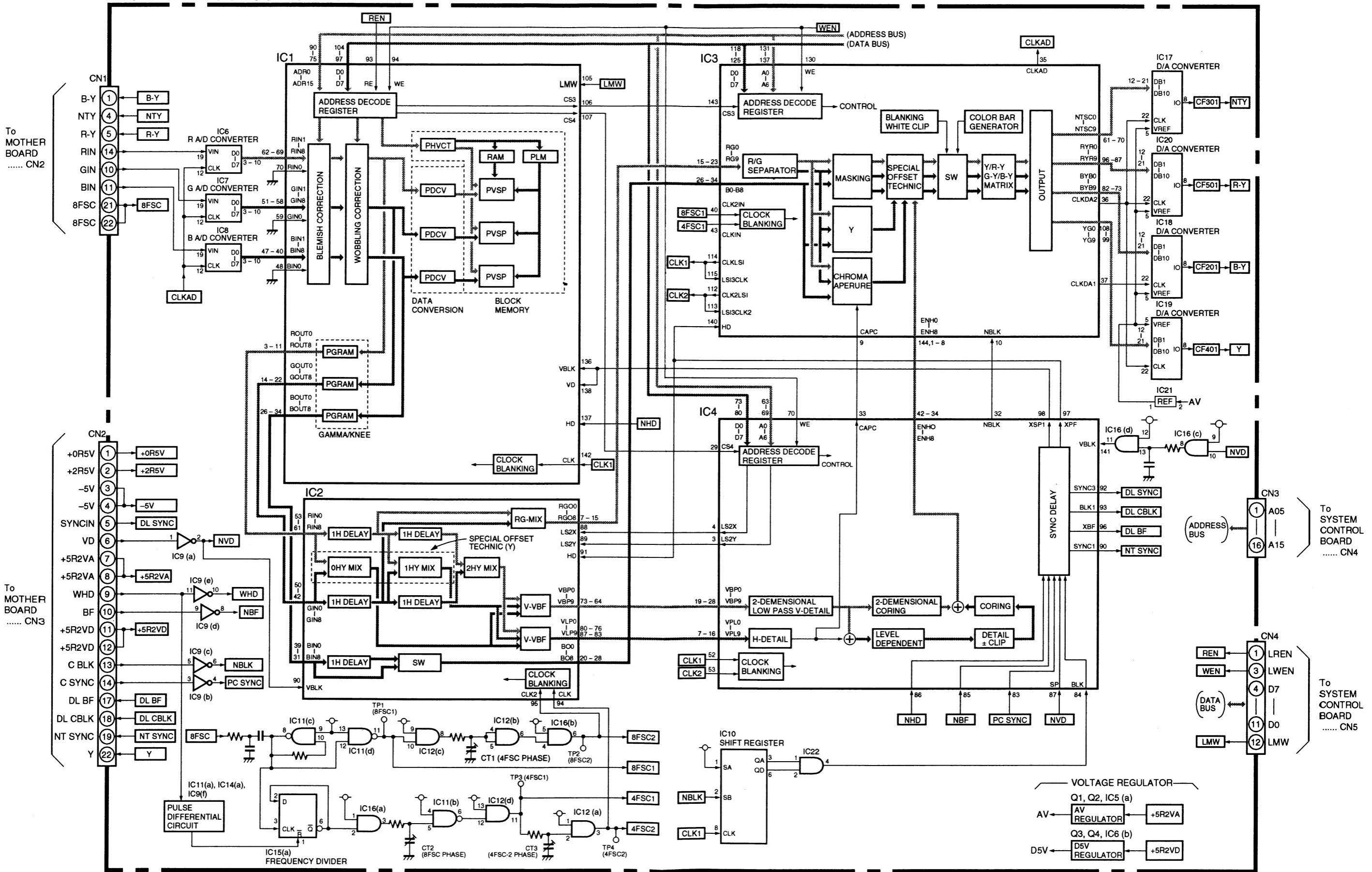
BLOCK DIAGRAM OF MOTHER BOARD

MOTHER BOARD

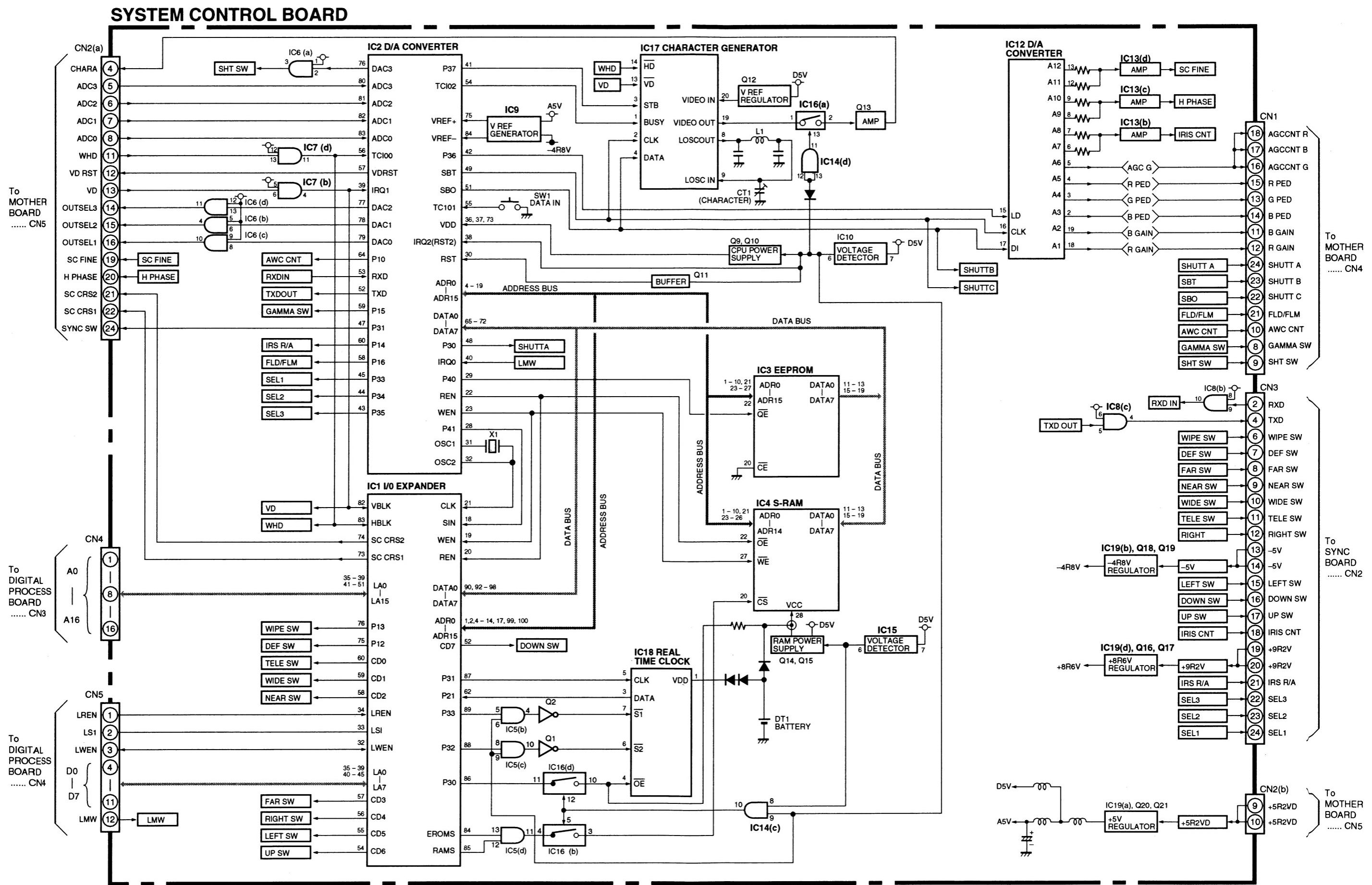


BLOCK DIAGRAM OF DIGITAL PROCESS BOARD

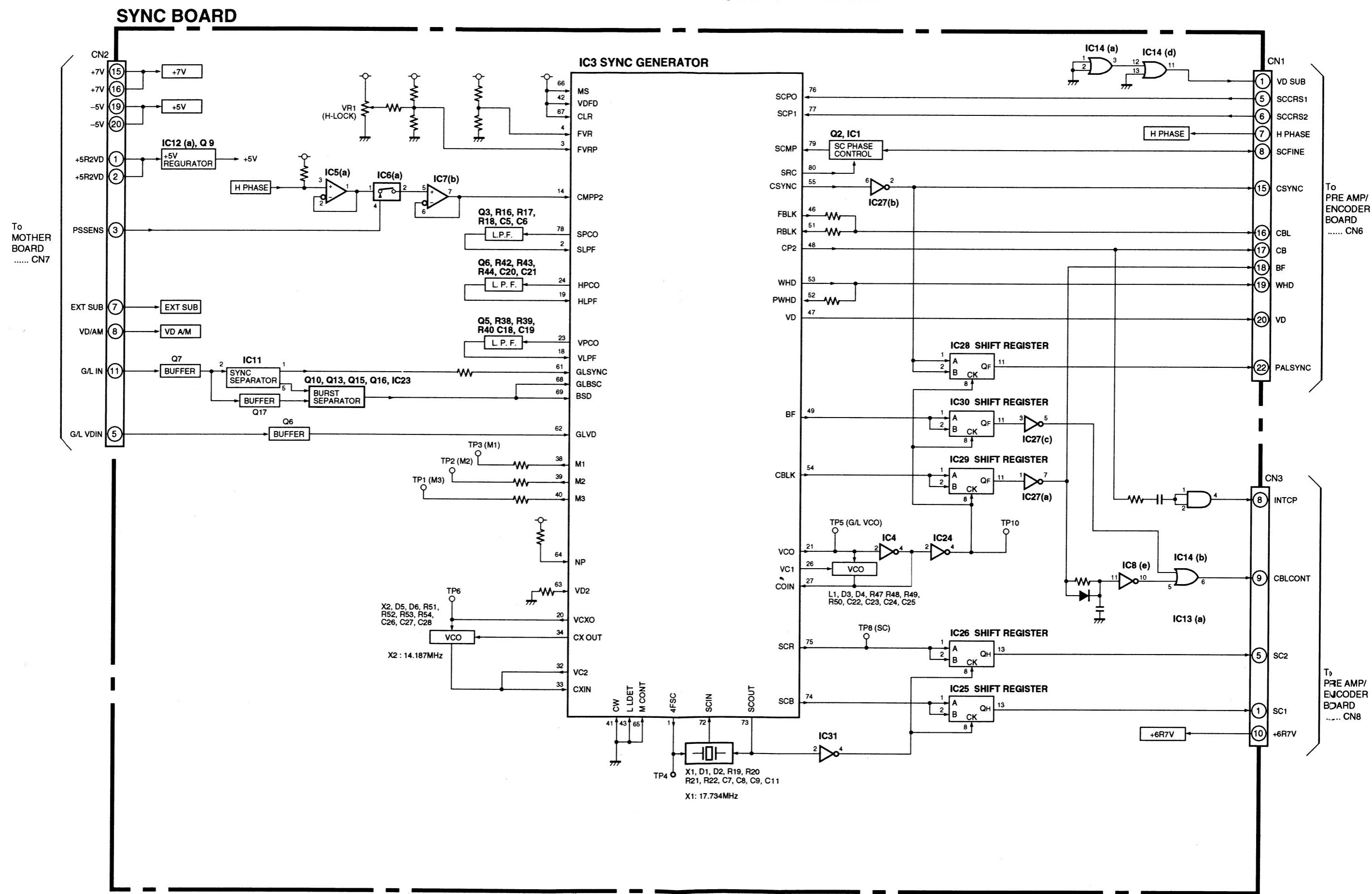
DIGITAL PROCESS BOARD



BLOCK DIAGRAM OF SYSTEM CONTROL BOARD

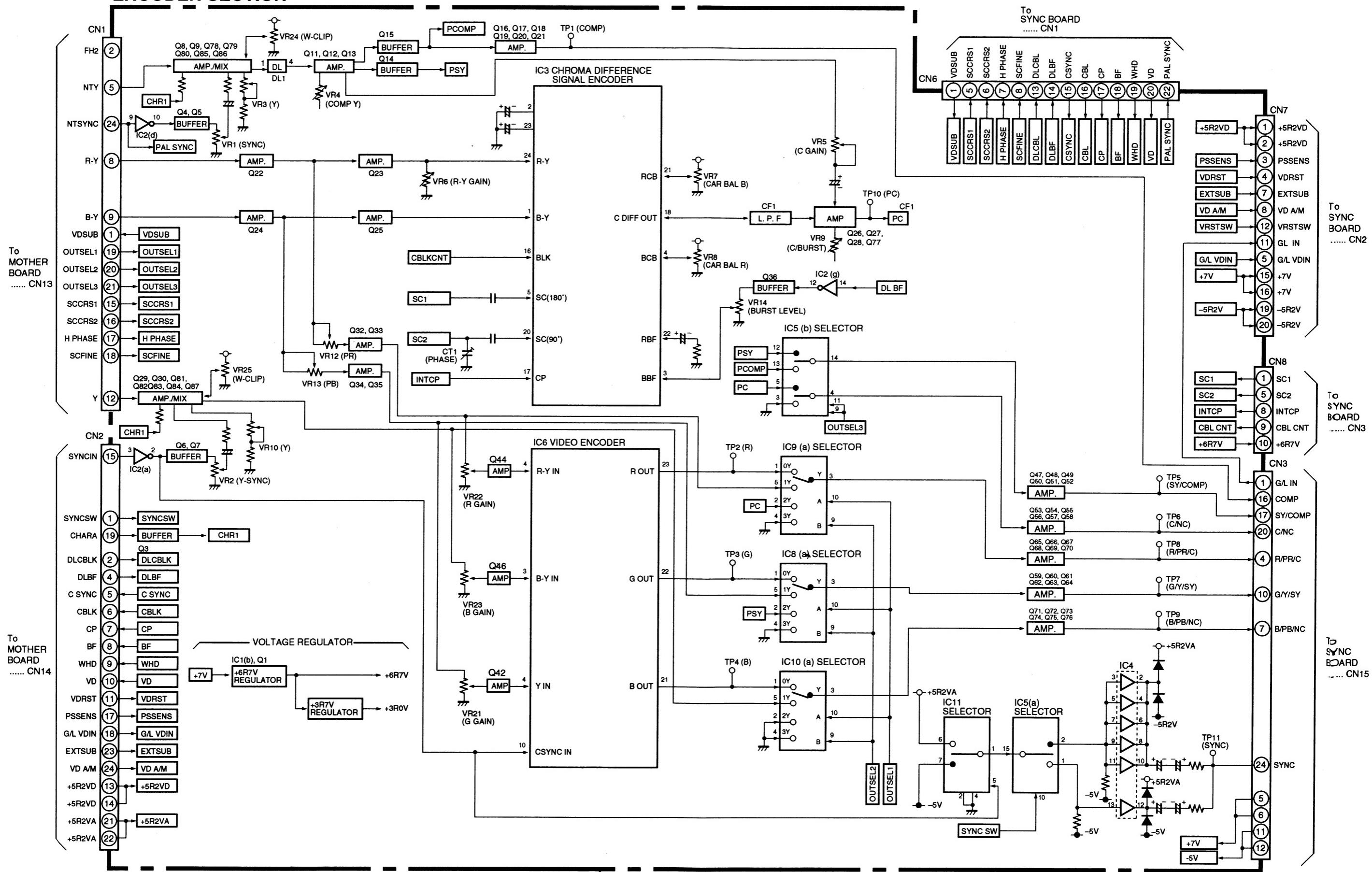


BLOCK DIAGRAM OF SYNC BOARD

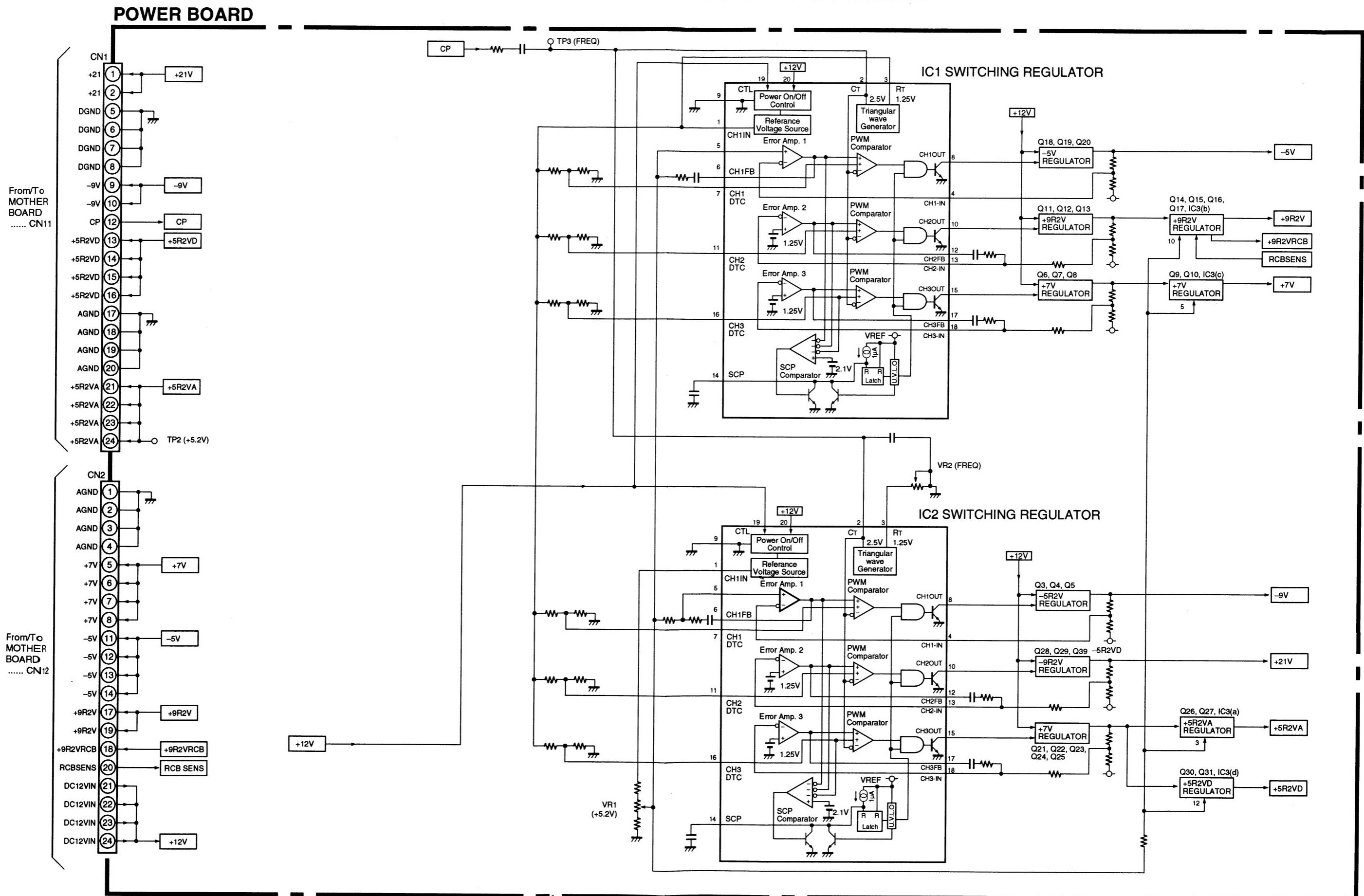


BLOCK DIAGRAM OF PREAMP/ENCODER BOARD (ENCODER SECTION)

ENCODER SECTION

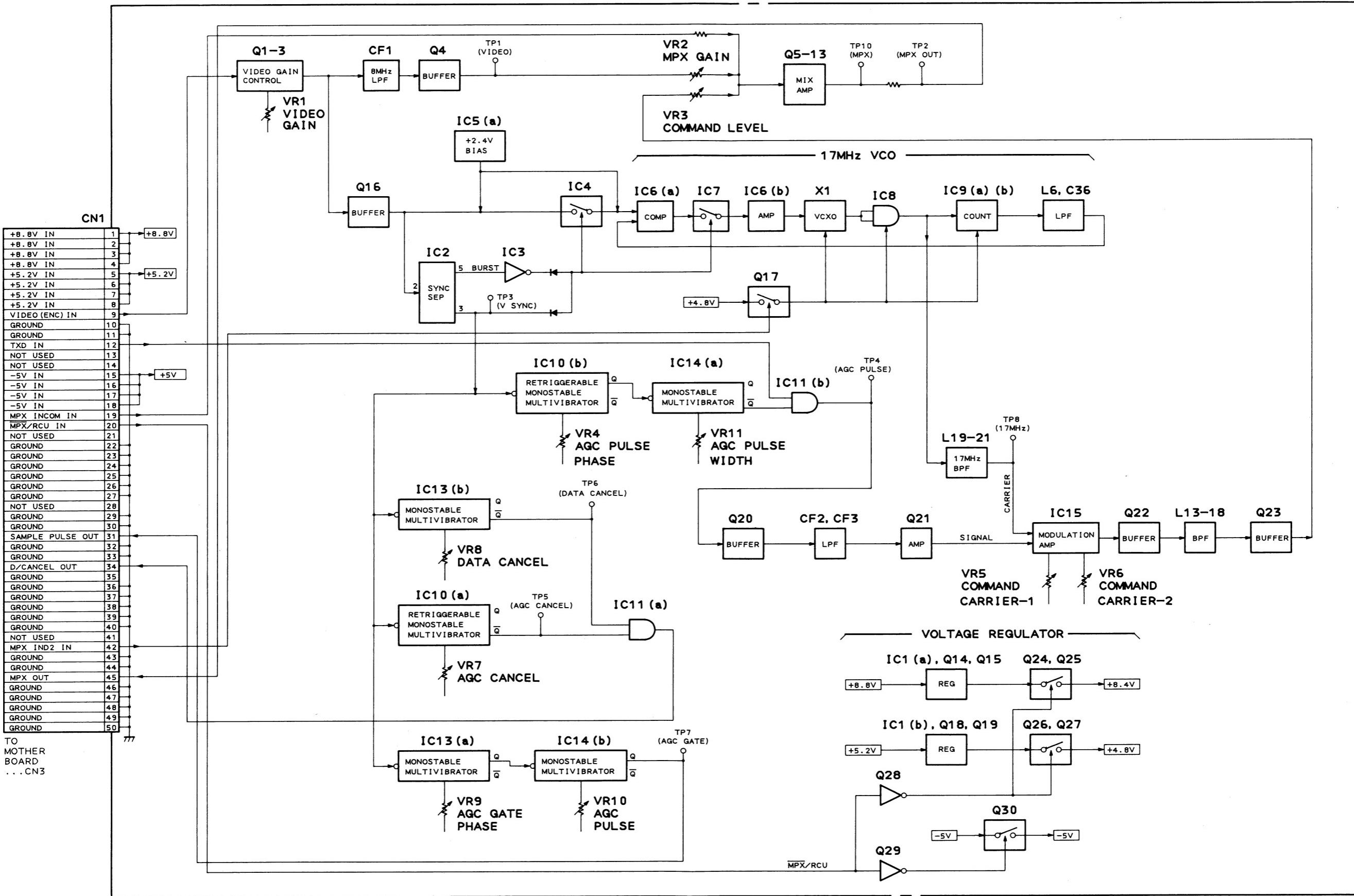


BLOCK DIAGRAM OF POWER BOARD



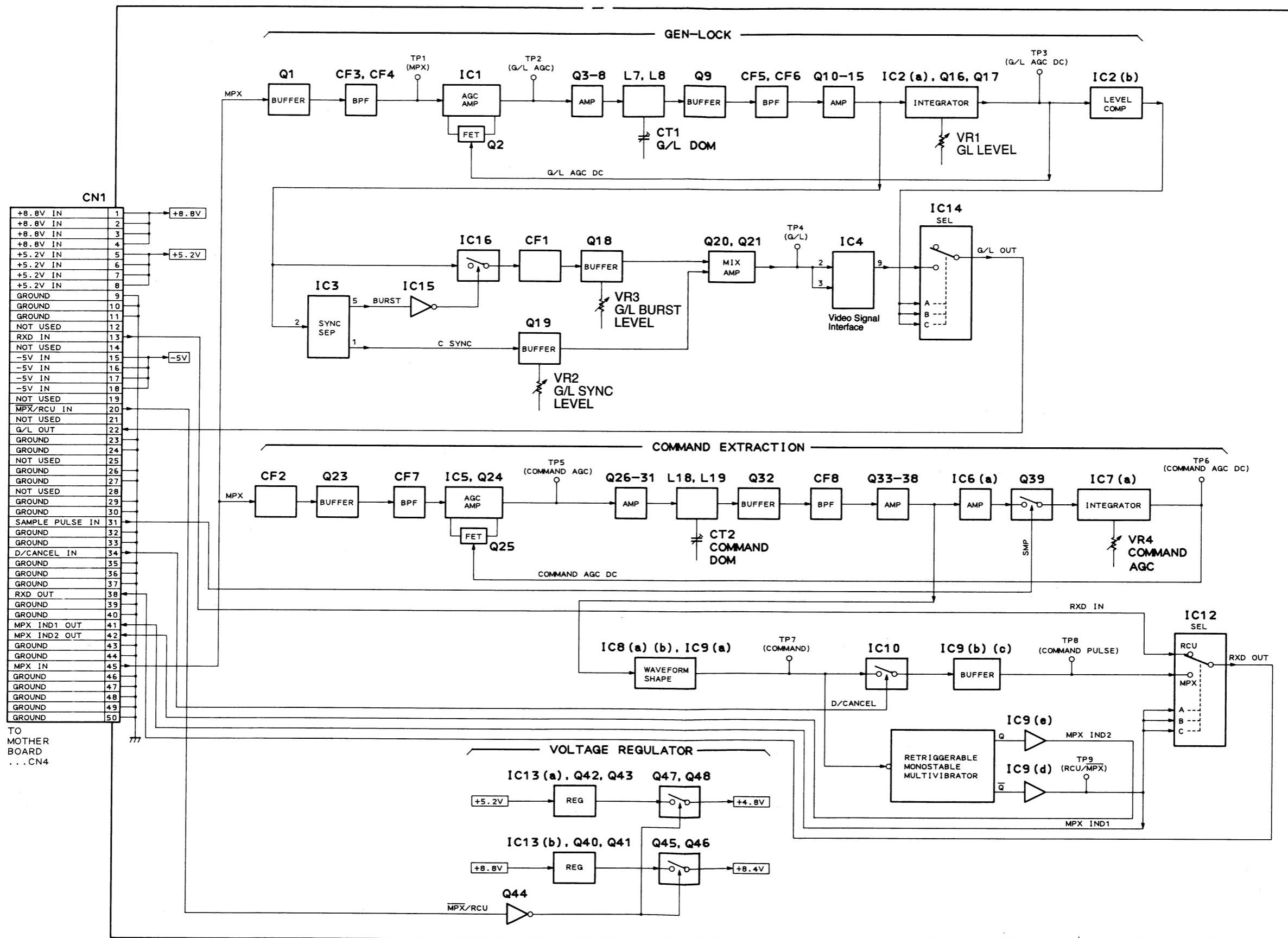
BLOCK DIAGRAM OF MODULATOR BOARD (WV-PS550)

MODULATOR BOARD



BLOCK DIAGRAM OF DEMODULATOR BOARD (WV-PS550)

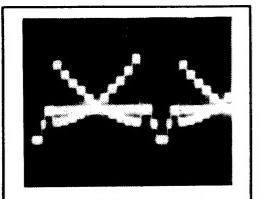
DEMODULATOR BOARD



SCHEMATIC DIAGRAM OF PREAMP/ENCODE

PREAMP SECTION

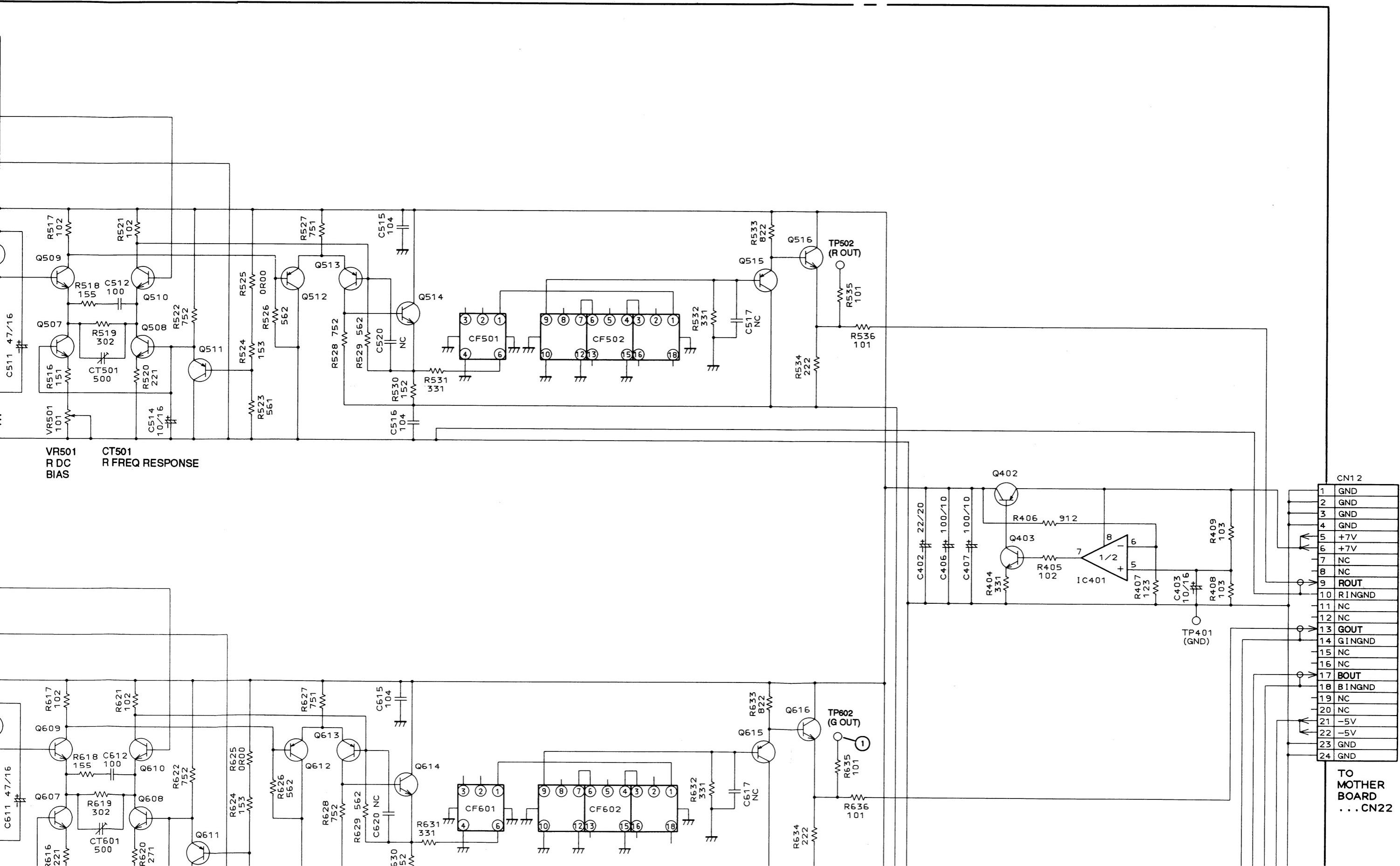
1. 10 μ sec/DIV 0.1V/DIV



^{< Index >} PREAMP SECTION

IC401	A5, C5
Q1	E2
Q3	E3
Q4	E4
Q5	E4
Q6	E4
Q7	D2
Q8	D2
Q9	D3
Q11	D3
Q12	D3
Q13	D3
Q14	D4
Q15	D4
Q16	D4
Q17	D4
Q18	D4
Q19	D4
Q20	D4
Q21	C2
Q22	C2
Q23	C3
Q24	C3
Q25	C5
Q26	C5
Q27	C5
Q28	B2
Q29	B2
Q30	B3
Q32	C3
Q33	C3
Q34	C3
Q35	C4
Q36	B3
Q42	B3
Q44	B3
Q46	B2
Q47	B2
Q48	A2
Q49	A2
Q50	A2
Q51	A2
Q52	A3
Q53	A3
Q54	A3
Q55	A3
Q56	A3
Q57	A3
Q58	A3
Q59	A4
Q60	A4
Q61	A4
Q62	A4
Q63	A4
Q64	A4
Q65	A5
Q66	A5
Q67	A5
Q68	A5
Q69	A5
Q70	A5
Q71	A6
Q72	A6
Q73	A6
Q74	A6
Q75	A6
Q76	A6
Q77	C5
Q78	D2
Q79	D3
Q80	B3
Q81	B3
Q82	B3
Q83	B3
Q84	B3
Q85	B3
Q86	B3
Q87	B3
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Q389	B3
Q390	B3
Q391	B3
Q392	B3
Q393	B3
Q394	B3
Q395	B3
Q396	B3
Q397	B3
Q398	B3
Q399</td	

RF PREAMP/ENCODER BOARD (PRE AMP SECTION) (WV-E550E)



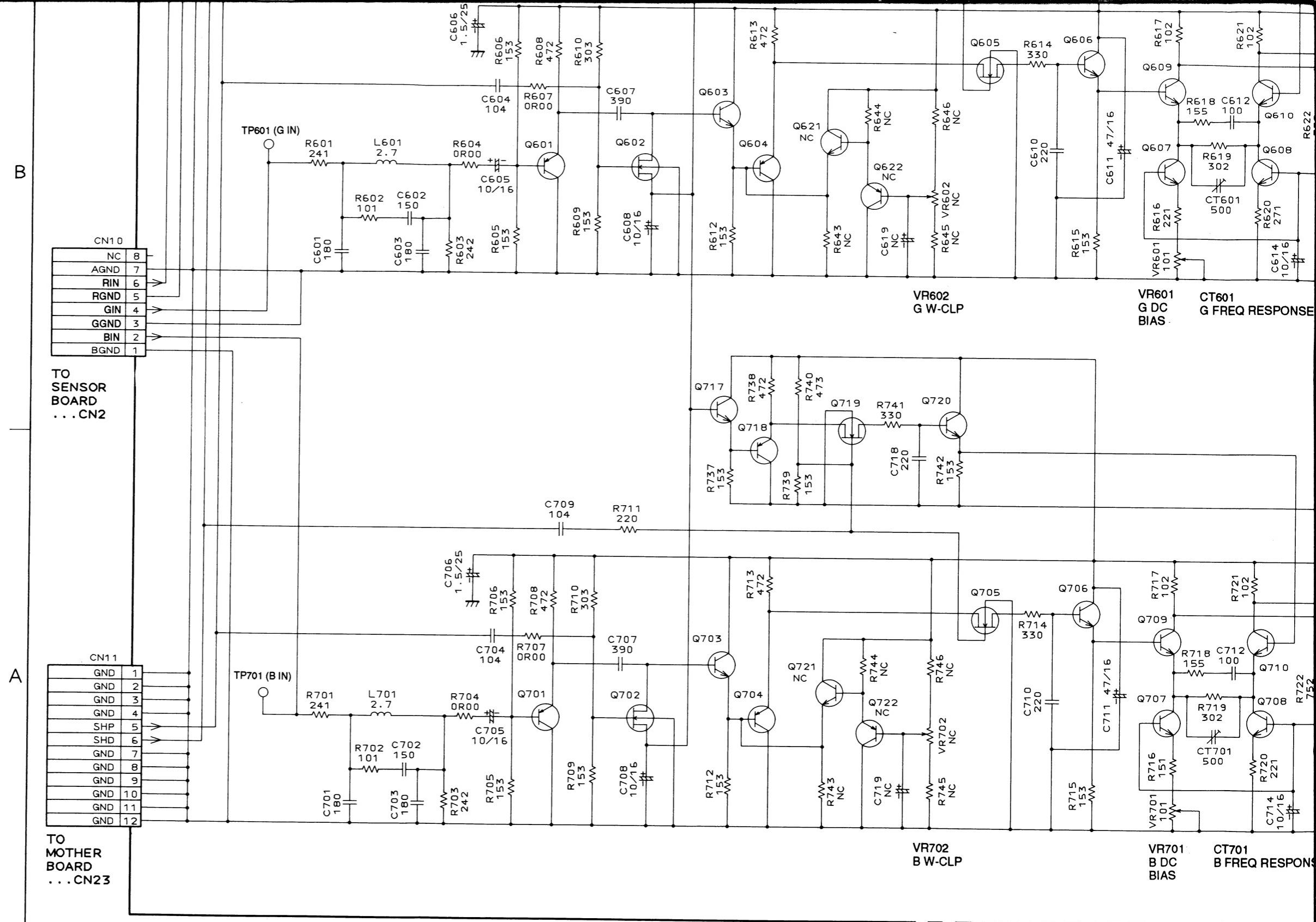
Q63	A4	Q701
Q64	A4	Q702
Q65	A5	Q703
Q66	A5	Q704
Q67	A5	Q705
Q68	A5	Q706
Q69	A5	Q707
Q70	A5	Q708
Q71	A6	Q709
Q72	A6	Q710
Q73	A6	Q711
Q74	A6	Q712
Q75	A6	Q713
Q76	A6	Q714
Q77	C5	Q715
Q78	D2	Q716
Q79	D3	Q717
		Q718
		Q719
		Q720
		D1
		D3
		D5
		D8
		D9

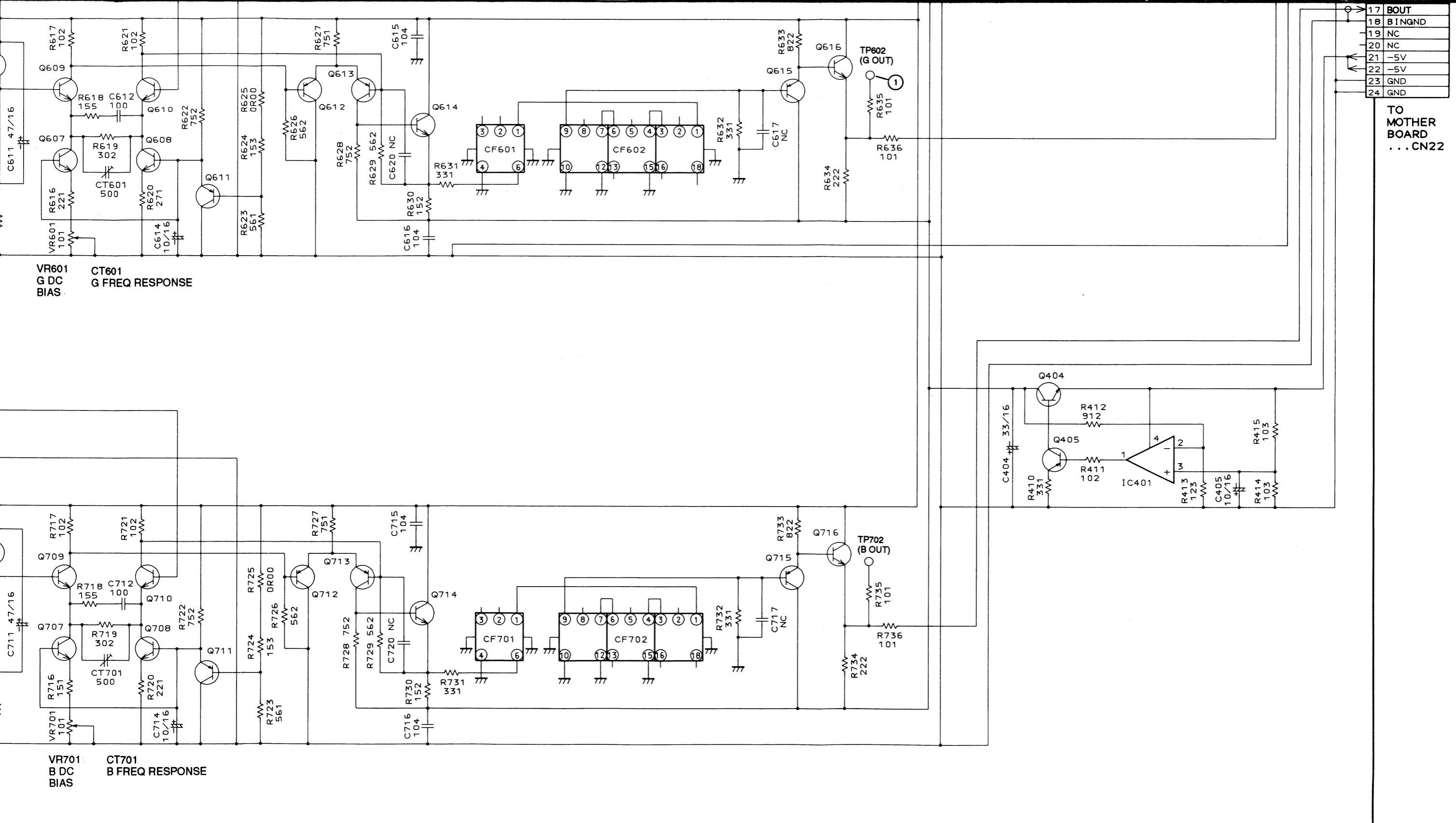
PREAMP SECTION

	B	C	E		B	C	E
Q401	3.1	0	1.6	Q611	0.2	0	0.9
402	6.3	6.2	7.0	612	4.3	0	5.0
403	0.7	6.3	0.1	613	4.2	1.0	5.0
404	-4.5	-4.5	-5.2	614	1.1	6.2	0.3
405	-0.6	-4.5	0	615	0.1	-4.6	0.8
501	3.1	0	3.8	616	0.8	6.2	0.1
504	3.0	0	3.7	617	3.8	0.2	3.1
506	3.6	6.2	2.9	618	3.1	0	3.8
507	0.9	2.1	0.3	620	3.8	6.2	3.0
508	0.9	2.2	0.3	621	2.9	1.6	3.0
509	2.9	4.1	2.1	622	2.2	0	2.9
510	2.9	4.1	2.2	701	3.1	0	3.8
511	0.2	0	0.9	703	3.8	6.2	3.0
512	4.1	0	4.8	704	3.0	0	3.6
513	4.1	0.8	4.8	706	3.6	6.2	2.9
514	0.8	6.2	0	707	0.9	2.1	0.3
515	0	-4.6	0.7	708	0.9	2.2	0.3
516	0.7	6.2	0	709	2.9	4.1	2.1
517	3.8	1.1	1.1	710	3.0	4.1	2.2
518	3.0	0	3.8	711	0.2	0	0.9
520	3.7	6.2	3.0	712	4.1	0	4.8
521	3.2	6.2	1.5	713	4.1	1.0	4.8
522	2.5	1.5	3.2	714	1.1	6.2	0.3
601	3.2	0	3.8	715	0.1	-4.5	0.8
603	3.8	6.2	3.0	716	0.8	6.2	0
604	3.0	0	3.7	717	2.0	6.2	3.1
606	3.6	6.2	2.9	718	3.1	0	3.8
607	0.9	2.1	0.3	720	3.8	6.2	3.0
608	0.9	2.2	0.3	721	3.4	6.1	2.9
609	2.8	4.3	2.1	722	2.7	0	3.4
610	3.0	4.3	2.2				

	C401
Pin 1	-0.6
2	-2.6
3	-2.6
4	-5.1
5	3.5
6	3.5
7	0.7
8	7.0

	Q502	Q505	Q519	Q602	Q605	Q619	Q702	Q705	Q719
Pin 1	0	0	0	0	0	0	0	0	0
2	2.0	1.5	1.5	2.1	1.5	1.5	2.0	1.5	1.5
3	3.8	3.6	3.8	3.8	3.6	3.9	3.8	3.6	3.8
4	3.8	3.6	3.8	3.8	3.6	3.9	3.8	3.6	3.8





3

4

5

Note: The value indicated in the schematic diagram should be read as follows:

- □ □ Multiplier (0 - 5)
- — — 2nd. Significant Digit (0 - 9)
- — — 1st. Significant Digit (1 - 9)

<Example>

For Resistor:
 $330 \rightarrow 33 \times 10^0 = 33 \Omega$
 $561 \rightarrow 56 \times 10^1 = 560 \Omega$
 $123 \rightarrow 12 \times 10^3 = 12k \Omega$
 $0R00 = 0 \Omega$

For Capacitor:
 $820 \rightarrow 82 \times 10^0 = 82 \text{ pF}$
 $102 \rightarrow 10 \times 10^2 = 1000 \text{ pF} = 0.001 \mu\text{F}$
 $104 \rightarrow 10 \times 10^4 = 100000 \text{ pF} = 0.1 \mu\text{F}$
 The suffix attached to capacitance indicates a type of capacitor.

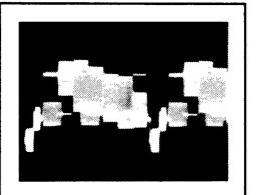
SCHEMATIC DIAGRAM OF PREAMP/ENCODER

PREAMP/ENCODER BOARD

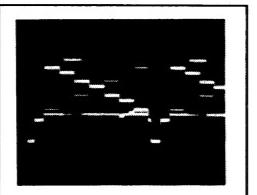
(ENCODER SECTION)

ENCODER SECTION

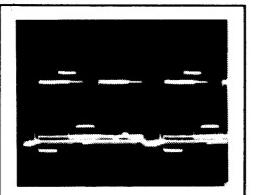
1. 10μsec/DIV 0.5V/DIV



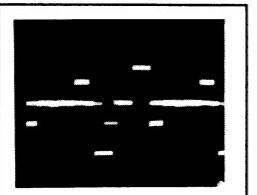
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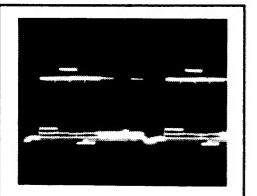
2. 10μsec/DIV 0.2V/DIV



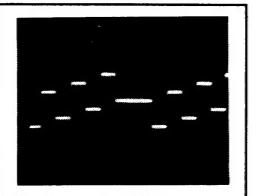
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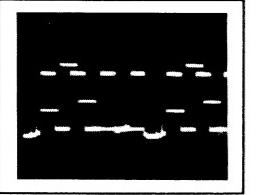
3. 10μsec/DIV 0.2V/DIV



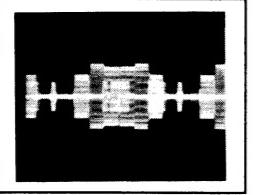
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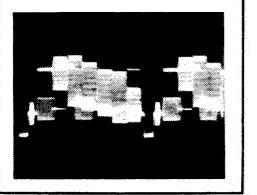
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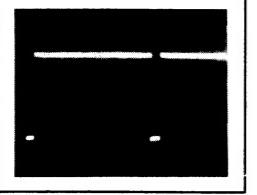
10. 10μsec/DIV 0.2V/DIV



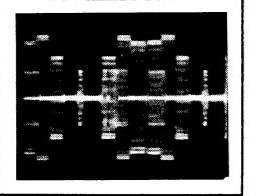
5. 10μsec/DIV 0.5V/DIV



11. 10μsec/DIV 0.2V/DIV

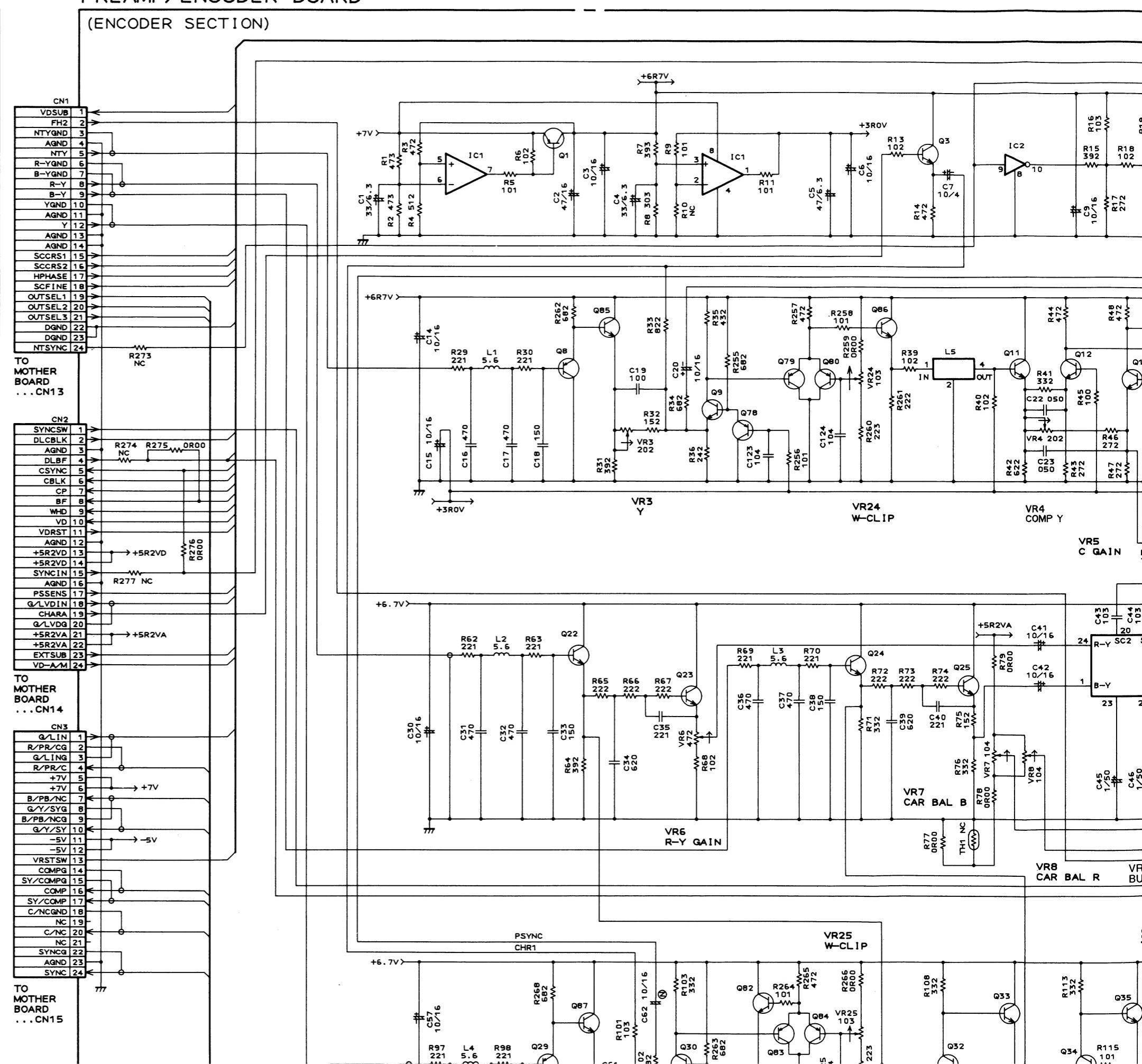


6. 10μsec/DIV 0.2V/DIV

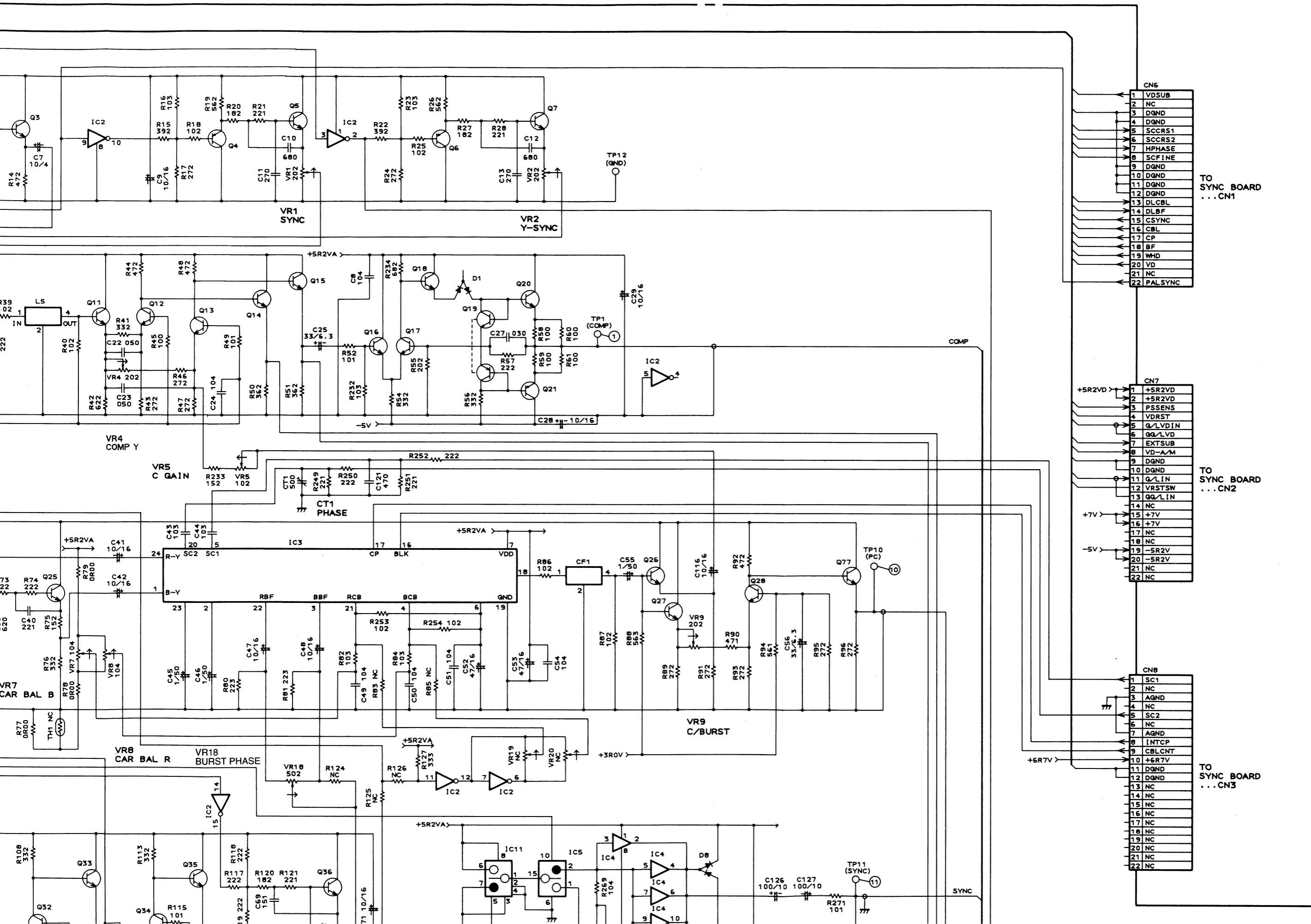


< Index > ENCODER SECTION

IC1 E2 C4, D5, E3, E4
IC2 C4 Q52 A2
IC3 C4 Q53 A3
IC4 B5, C5 Q54 A3
IC5 R5 Q55 A3
Q56 A3



PREAMP/ENCODER BOARD (ENCODER SECTION) (WV-E550E)

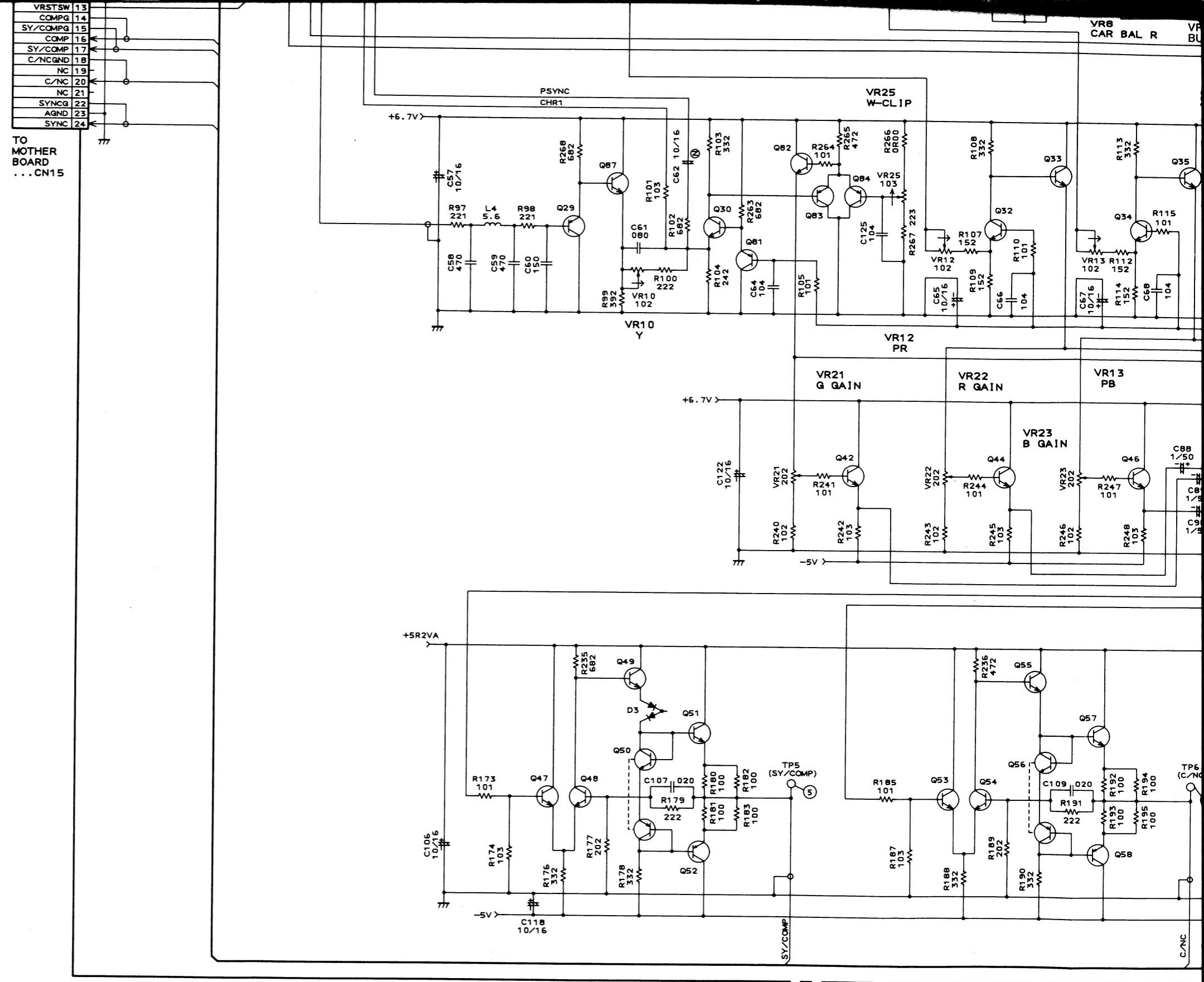


**< Index >
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IC1	E2	C4, D5, E3, E4	Q52	A2
IC2	C4	C4	Q53	A3
IC3	B5, C5	B5	Q54	A3
IC4	B5	B5	Q55	A3
IC5	B4	B4	Q56	A3
IC6	B5, B6	B6	Q57	A3
IC8	B6	B6	Q58	A3
IC9	B6	B6	Q59	A4
IC10	C4	C4	Q60	A4
IC11	C4	C4	Q61	A4
Q1	E2	E2	Q62	A4
Q3	E3	E3	Q63	A4
Q4	E4	E4	Q64	A4
Q5	E4	E4	Q65	A5
Q6	E4	E4	Q66	A5
Q7	D2	D2	Q67	A5
Q8	D2	D2	Q68	A5
Q9	D2	D2	Q69	A5
Q11	D3	D3	Q70	A5
Q12	D3	D3	Q71	A6
Q13	D3	D3	Q72	A6
Q14	D4	D4	Q73	A6
Q15	D4	D4	Q74	A6
Q16	D4	D4	Q75	A6
Q17	D4	D4	Q76	A6
Q18	D4	D4	Q77	C5
Q19	D4	D4	Q78	D2
Q20	D4	D4	Q79	D3
Q21	D4	D4	Q80	D3
Q22	C2	C2	Q81	C2
Q23	C2	C2	Q82	B3
Q24	C3	C3	Q83	B3
Q25	C3	C3	Q84	B3
Q26	C5	C5	Q85	B3
Q27	C5	C5	Q86	D2
Q28	B2	B2	Q87	D3
Q29	B2	B2		C2
Q30	B3	B3		D1
Q32	C3	C3		D3
Q33	C3	C3		A2
Q34	C4	C4		A4
Q35	B3	B3		C5
Q36	B3	B3		D9
Q42	B3	B3		B5
Q44	B3	B3		
Q46	A2	A2		
Q47	A2	A2		
Q48	A2	A2		
Q49	A2	A2		
Q50	A2	A2		
Q51	A2	A2		

ENCODER SECTION

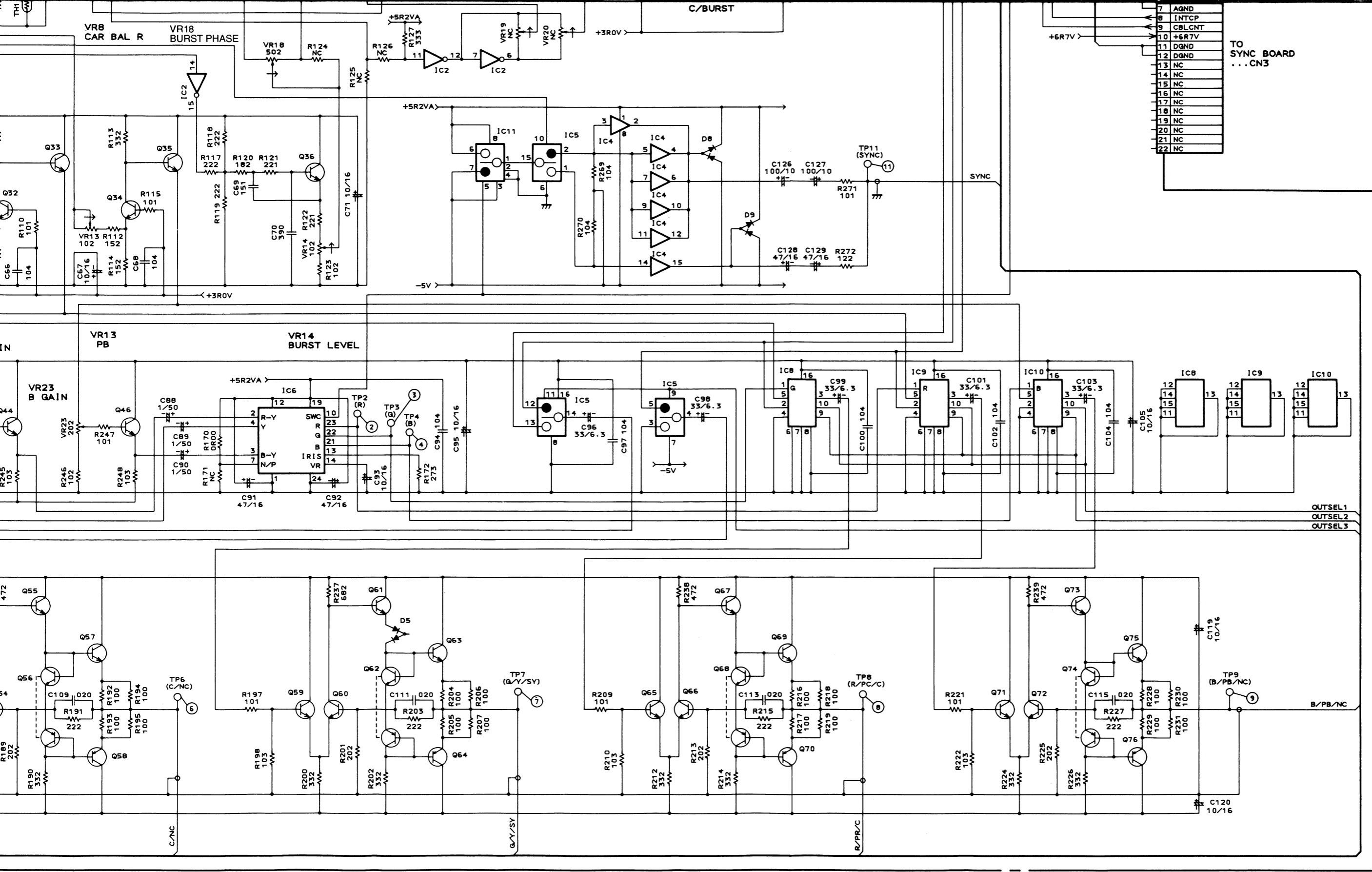
	B	C	E		Q19	Q74
Q16	-0.1	5.2	-0.8		Pin 1	-1.9 -0.1
17	-0.7	2.6	-0.8		2	0.4 0.5
18	2.6	5.2	1.8		3	-0.8 -0.7
20	0.4	5.2	-0.2		4	-0.2 -0.1
21	-0.8	-5.2	-0.2		5	-0.8 -0.7
36	2.3	6.7	1.7		6	0.4 0.5
71	-0.1	5.2	-0.8			
72	-0.1	1.3	-0.8			
73	1.3	5.2	0.5			
75	0.5	5.2	-0.1			
76	-0.7	-5.2	-0.1			
66	4.6	-0.1	3.8			



1

2

3

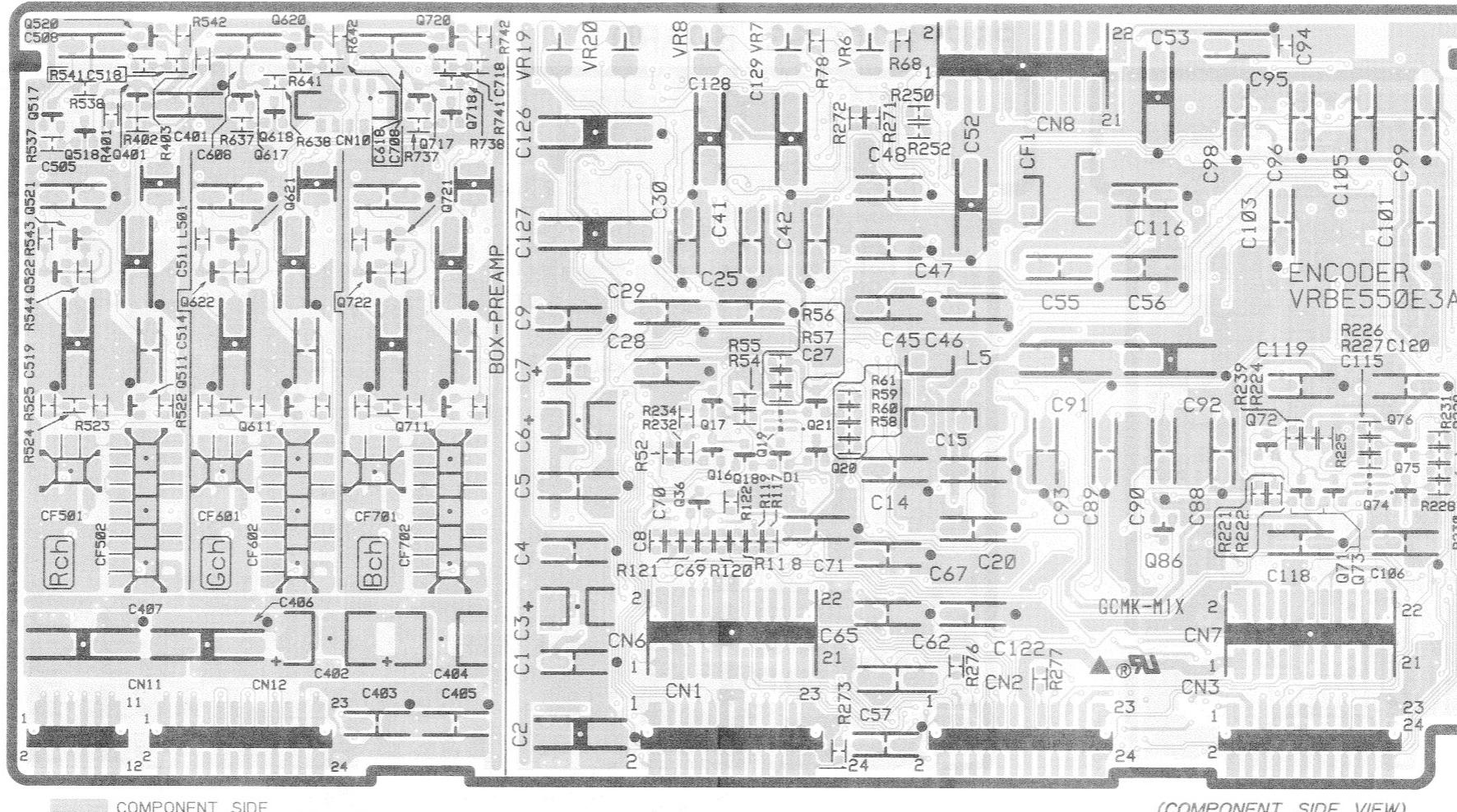


CONDUCTOR VIEW OF PREAMP/ENCODER BOARD (WV-E550E)

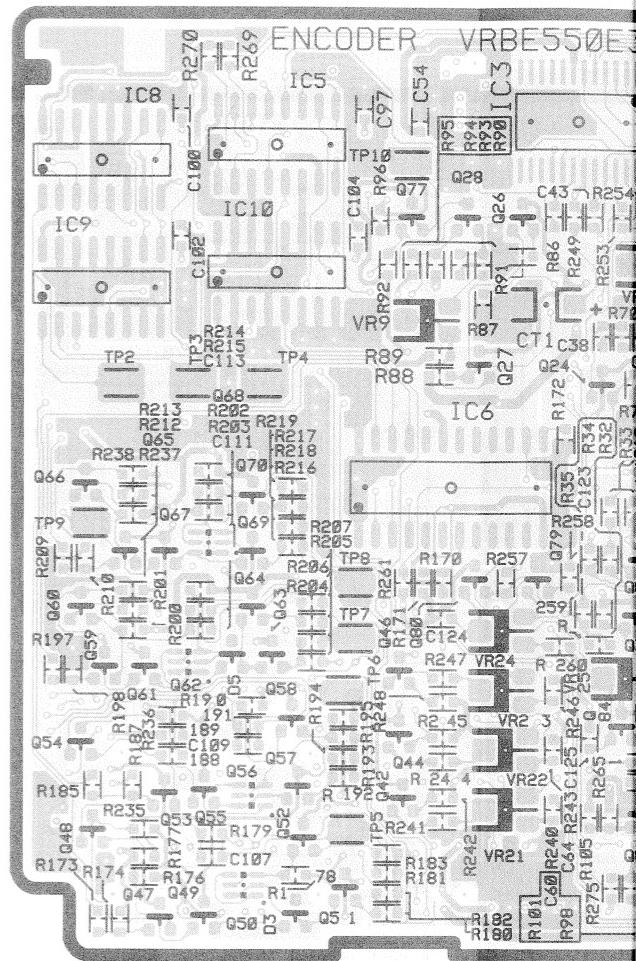
< Index >
PREAMP SECTION

IC401	A7	Q704	B7
Q401	C1	Q705	B7
Q402	A8	Q706	B7
Q403	A8	Q707	B7
Q404	A7	Q708	B8
Q405	A7	Q709	B7
Q501	B8	Q710	B8
Q502	C8	Q711	B2
Q503	B8	Q712	B7
Q504	B8	Q713	B7
Q505	B8	Q714	A8
Q506	B8	Q715	A7
Q507	B8	Q716	A8
Q508	B8	Q717	C2
Q509	B8	Q718	B2
Q510	B8	Q719	C7
Q511	B1	Q720	C2
Q512	B8		
Q513	B8		
Q514	A8		
Q515	A8		
Q516	A8		
Q517	B1		
Q518	B1		
Q519	C8		
Q520	C1		
Q601	B8		
Q602	C8		
Q603	B8		
Q604	B8		
Q605	B8		
Q606	B8		
Q607	B8		
Q608	B8		
Q609	B8		
Q610	B8		
Q611	B1		
Q612	B8		
Q613	B8		
Q614	A8		
Q615	A8		
Q616	A8		
Q617	C1		
Q618	B1		
Q619	C8		
Q620	C1		
Q701	B7		
Q702	C7		
Q703	B8		

PREAMP/ENCODER BOARD



PREAMP/ENCODER BOARD

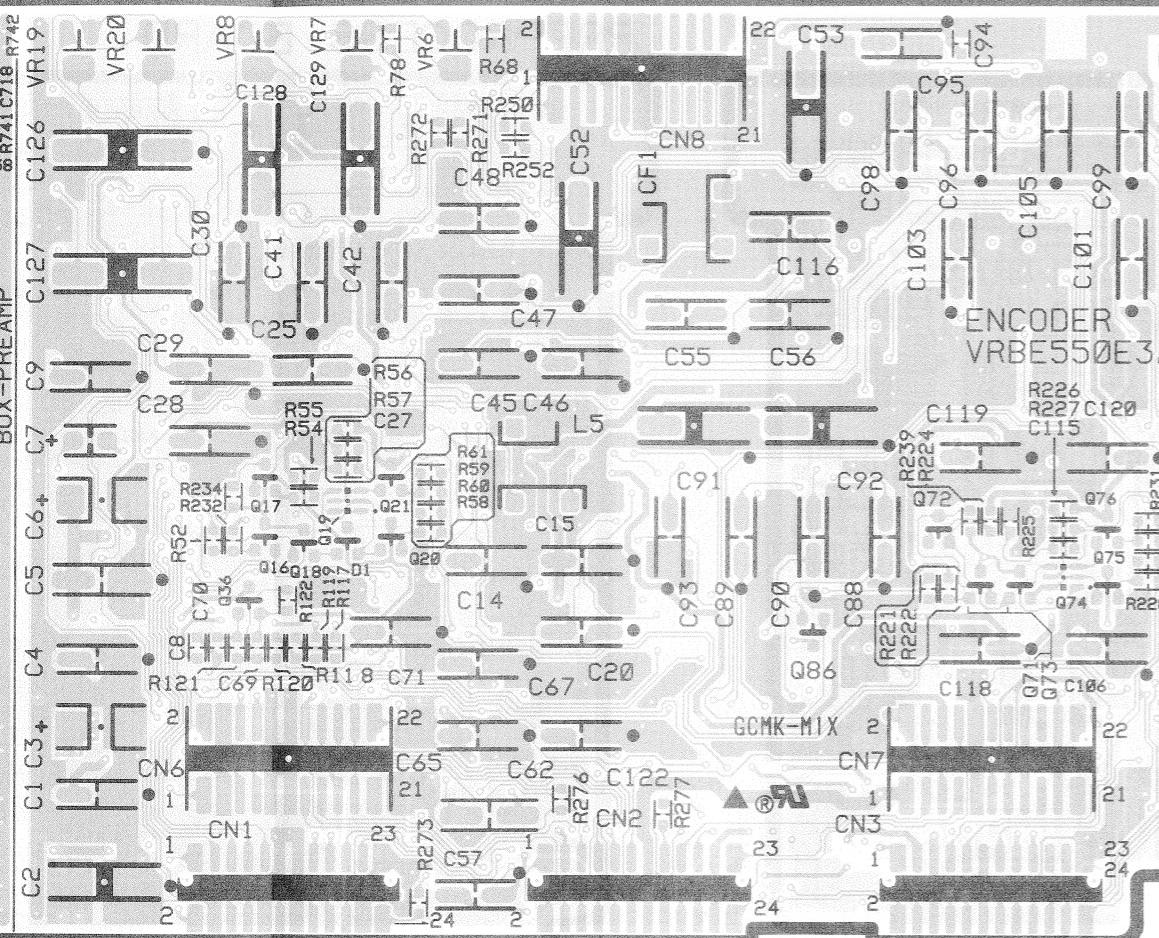


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ENCODER SECTION

IC1	A7	Q1	A7	Q15	B7	Q27	B6	Q48	A5	Q60	A5	Q72	B4	Q84	A6
IC2	A7	Q3	B7	Q16	B2	Q28	B6	Q49	A5	Q61	A5	Q73	A4	Q85	B6
IC3	C6	Q4	B7	Q17	B2	Q29	A6	Q50	A5	Q62	A5	Q74	B4	Q86	A4
IC4	C7	Q5	B7	Q18	B3	Q30	A6	Q51	A5	Q63	A5	Q75	A4	Q87	A6
IC5	B5	Q6	B7	Q19	B3	Q32	A7	Q52	A5	Q64	A5	Q76	B4	D1	B3
IC6	B6	Q7	B7	Q20	B3	Q33	A7	Q53	A5	Q65	B5	Q77	B5	D3	A5
IC8	B5	Q8	B6	Q21	B3	Q34	A6	Q54	A5	Q66	B5	Q78	A6	D5	A5
IC9	B5	Q9	A6	Q22	B6	Q35	A6	Q55	A5	Q67	B5	Q79	B6	D8	B7
IC10	B5	Q11	B6	Q23	B7	Q36	A2	Q56	A5	Q68	B5	Q80	B6	D9	B7
IC11	C7	Q12	B7	Q24	B6	Q42	A5	Q57	A5	Q69	B5	Q81	A6		
		Q13	B7	Q25	B6	Q44	A5	Q58	A5	Q70	B5	Q82	A6		
		Q14	B7	Q26	B6	Q47	A5	Q59	A5	Q71	A4	Q83	A6		

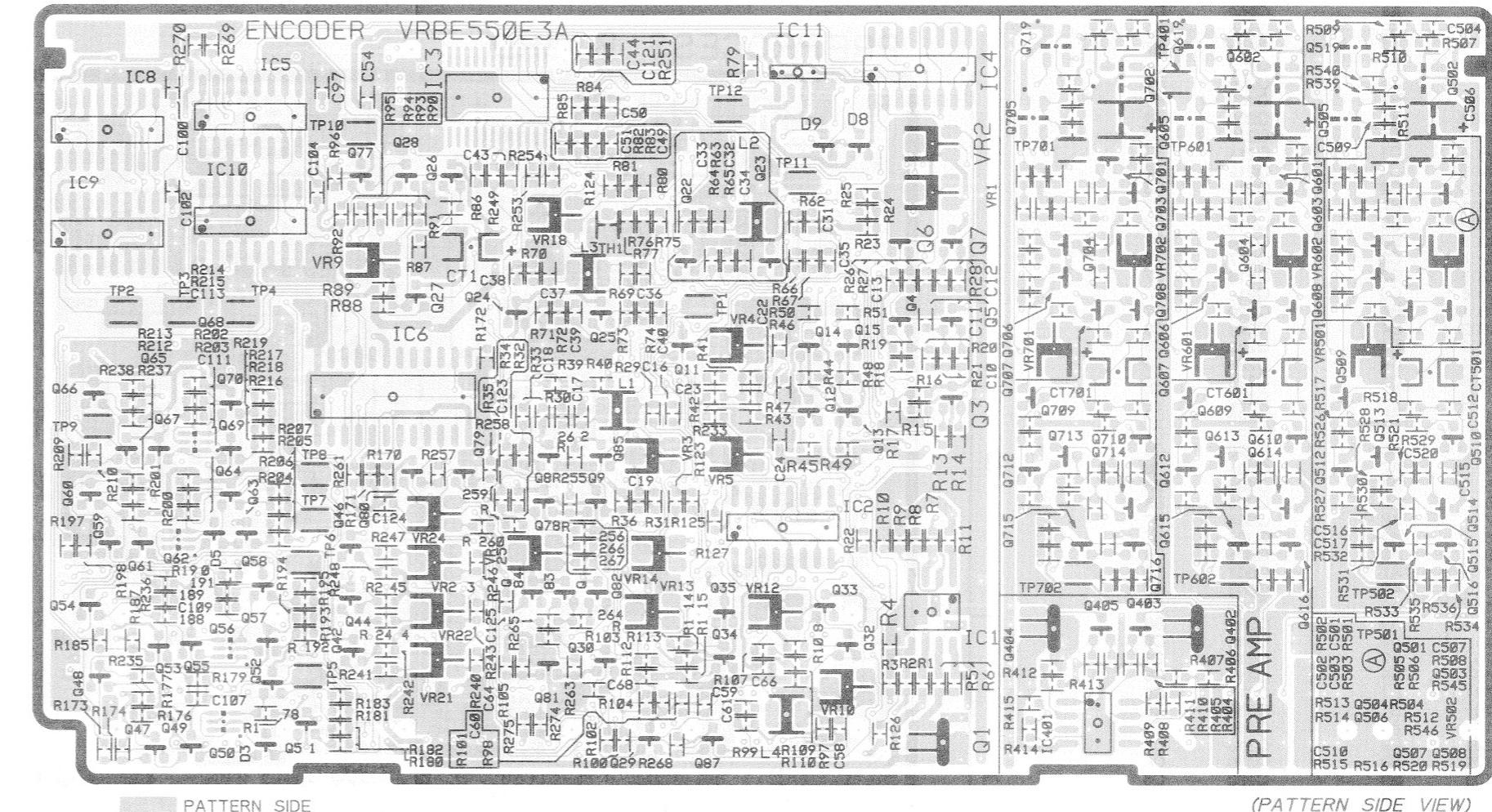
CONDUCTOR VIEW OF PREAMP/ENCODER BOARD (WV-E550E)

ARD



(COMPONENT SIDE VIEW

PREAMP/ENCODER BOARD



(PATTERN SIDE VIEW)

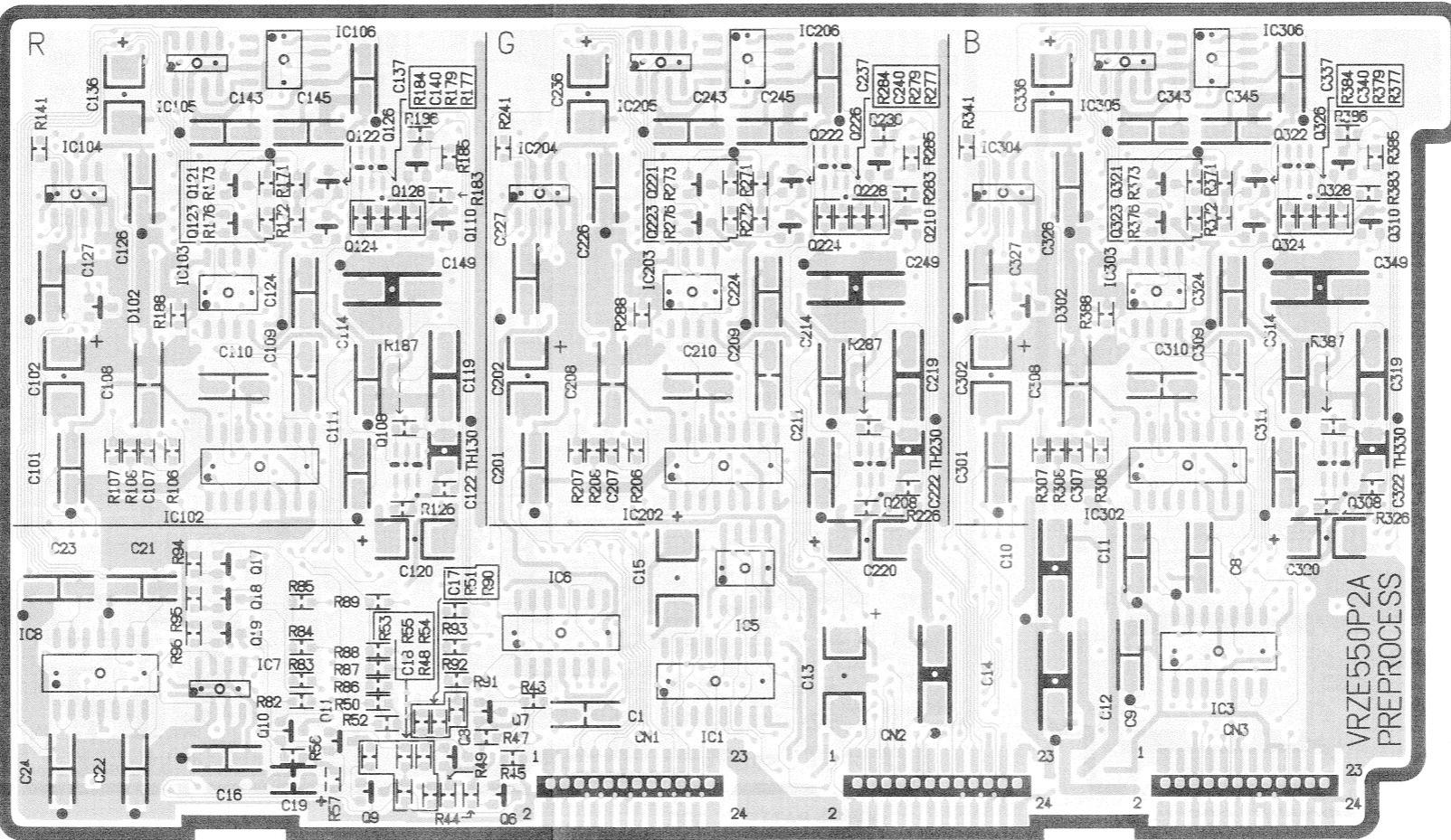
7	B6	Q48	A5	Q60	A5	Q72	B4	Q84	A6
8	B6	Q49	A5	Q61	A5	Q73	A4	Q85	B6
9	A6	Q50	A5	Q62	A5	Q74	B4	Q86	A4
0	A6	Q51	A5	Q63	A5	Q75	A4	Q87	A6
2	A7	Q52	A5	Q64	A5	Q76	B4	D1	B3
3	A7	Q53	A5	Q65	B5	Q77	B5	D3	A3
4	A6	Q54	A5	Q66	B5	Q78	A6	D5	A5
5	A6	Q55	A5	Q67	B5	Q79	B6	D8	B7
6	A2	Q56	A5	Q68	B5	Q80	B6	D9	B7
2	A5	Q57	A5	Q69	B5	Q81	A6		
4	A5	Q58	A5	Q70	B5	Q82	A6		
7	A5	Q59	A5	Q71	A4	Q83	A6		

CONDUCTOR VIEW OF PREPROCESS BOARD (WV-E550E)

< Index>
PREPROCESS
BOARD

IC1	A3	Q201	B8
IC3	A4	Q202	B8
IC5	B3	Q203	B8
IC6	A2	Q204	B7
IC7	A1	Q205	B7
IC8	A1	Q206	B7
IC101	B9	Q207	B7
IC102	B1	Q208	B3
IC103	B1	Q210	C2
IC104	C1	Q211	B2
IC105	C1	Q212	C2
IC106	C2	Q213	C8
IC201	B7	Q214	C7
IC202	B3	Q215	C8
IC203	B3	Q216	C7
IC204	C2	Q217	C8
IC205	C3	Q218	C7
IC206	C3	Q219	C8
IC301	B6	Q220	C7
IC302	B4	Q221	C3
IC303	B4	Q222	C5
IC304	C4	Q223	C3
IC305	C4	Q224	C5
IC306	C4	Q225	C7
Q1	B5	Q226	C5
Q2	A6	Q227	C7
Q3	A6	Q228	C5
Q4	A7	Q301	B6
Q5	A7	Q302	B6
Q6	A2	Q303	B6
Q7	A2	Q304	B6
Q8	A2	Q305	B5
Q9	A2	Q306	B6
Q10	A1	Q307	B5
Q11	A2	Q308	B5
Q12	A9	Q310	C5
Q13	A9	Q311	B6
Q14	A9	Q312	C6
Q15	A9	Q313	C6
Q16	A9	Q314	C6
Q17	B1	Q315	C6
Q18	B1	Q316	C6
Q19	A1	Q317	C6
Q101	B9	Q318	C6
Q102	B9	Q319	C6
Q103	B9	Q320	C6
Q104	B8	Q321	C4
Q105	B8	Q322	C2
Q106	B8	Q323	C4
Q107	B8	Q324	C4
Q108	B2	Q325	C5
Q110	C2	Q326	C4
Q111	B9	Q327	C6
Q112	C9	Q328	C5
Q113	C9	D2	A7
Q114	C9	D101	B9
Q115	C9	D102	B1
Q116	C9	D201	B8
Q117	C9	D301	B6
Q118	C9	D302	B4
Q119	C9		
Q120	C9		
Q121	C1		
Q122	C2		
Q123	C1		
Q124	C2		
Q125	C8		
Q126	C2		
Q127	C8		
Q128	C2		

PREPROCESS BOARD

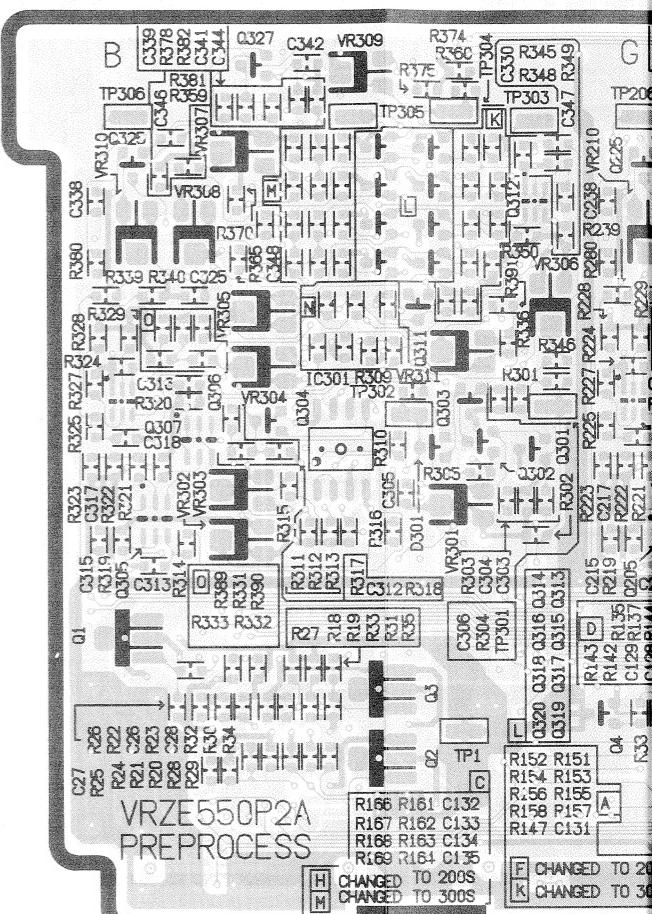


(COMPONENT SIDE VIEW)

COMPONENT SIDE

INTERMEDIATE PATTERNS

PREPROCESS BOARD



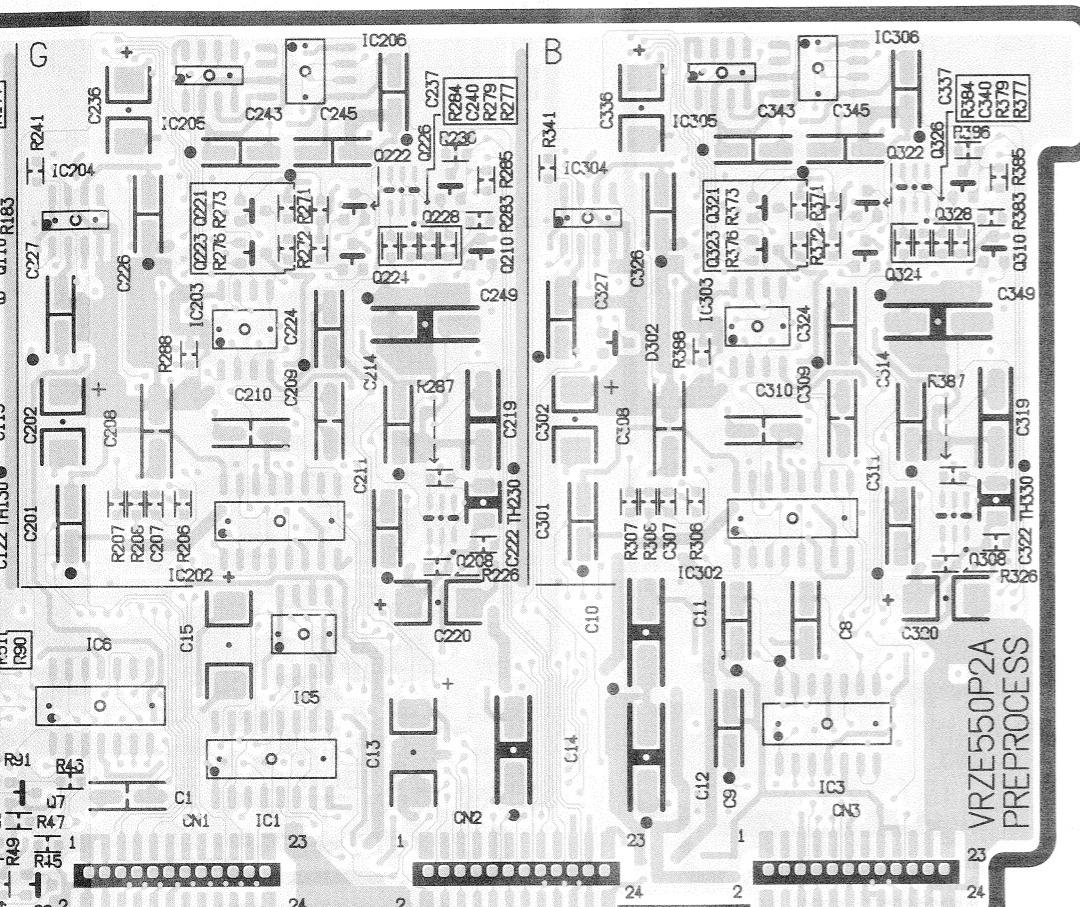
PATTERN SIDE

INTERMEDIATE PATTERN

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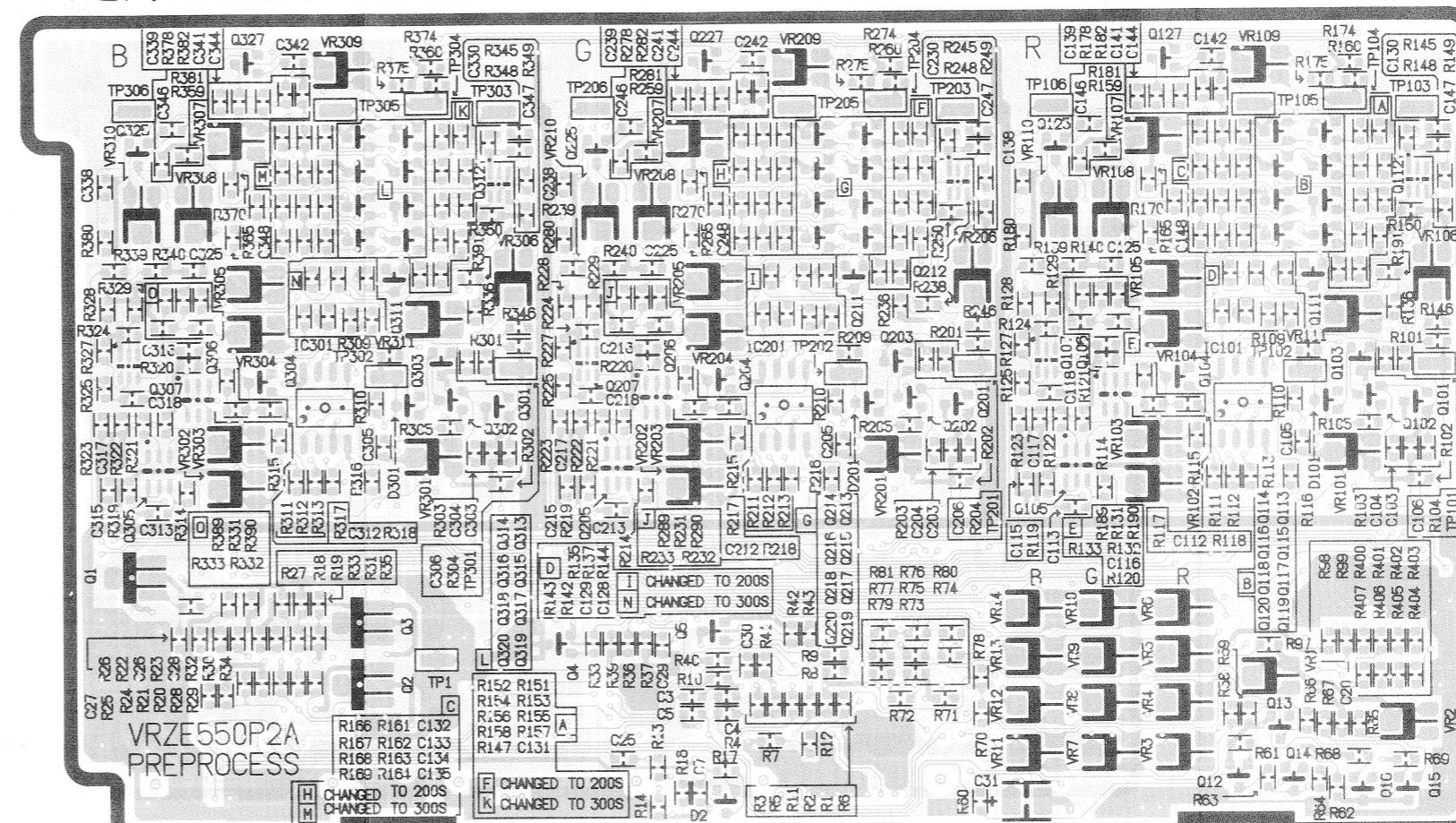
CONDUCTOR VIEW OF PREPROCESS BOARD (WV-E550E)

ARD



(COMPONENT SIDE VIEW)

PREPROCESS BOARD



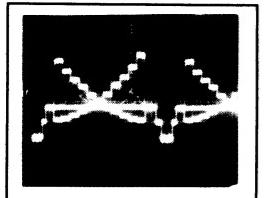
PATTERN SIDE

INTERMEDIATE PATTERN

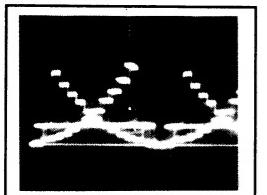
SCHEMATIC DIAGRAM OF PREPROCES

PREPROCESS BOARD

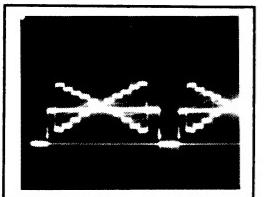
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2. 10μsec/DIV 0.2V/DIV



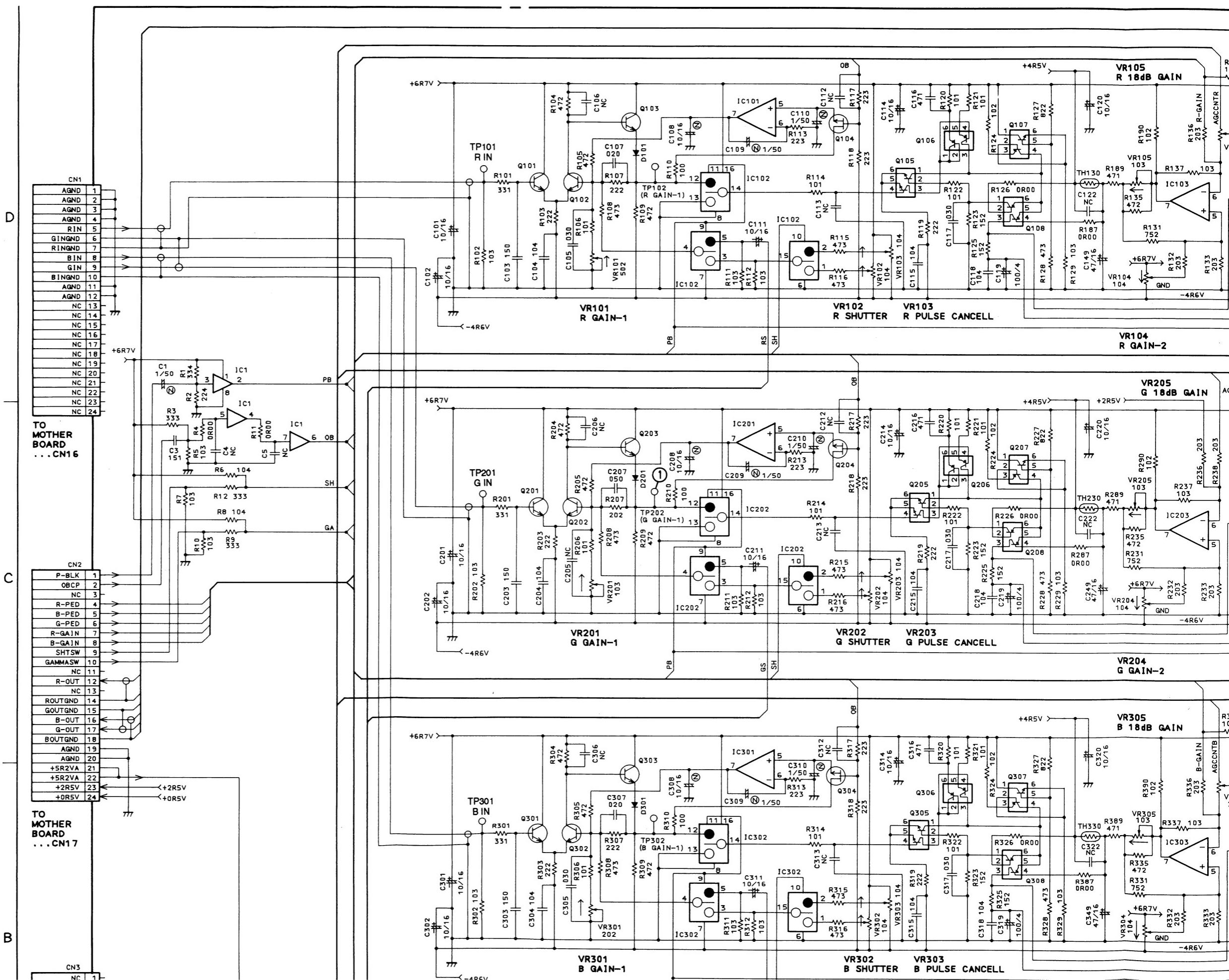
3. 10μsec/DIV 0.5V/DIV



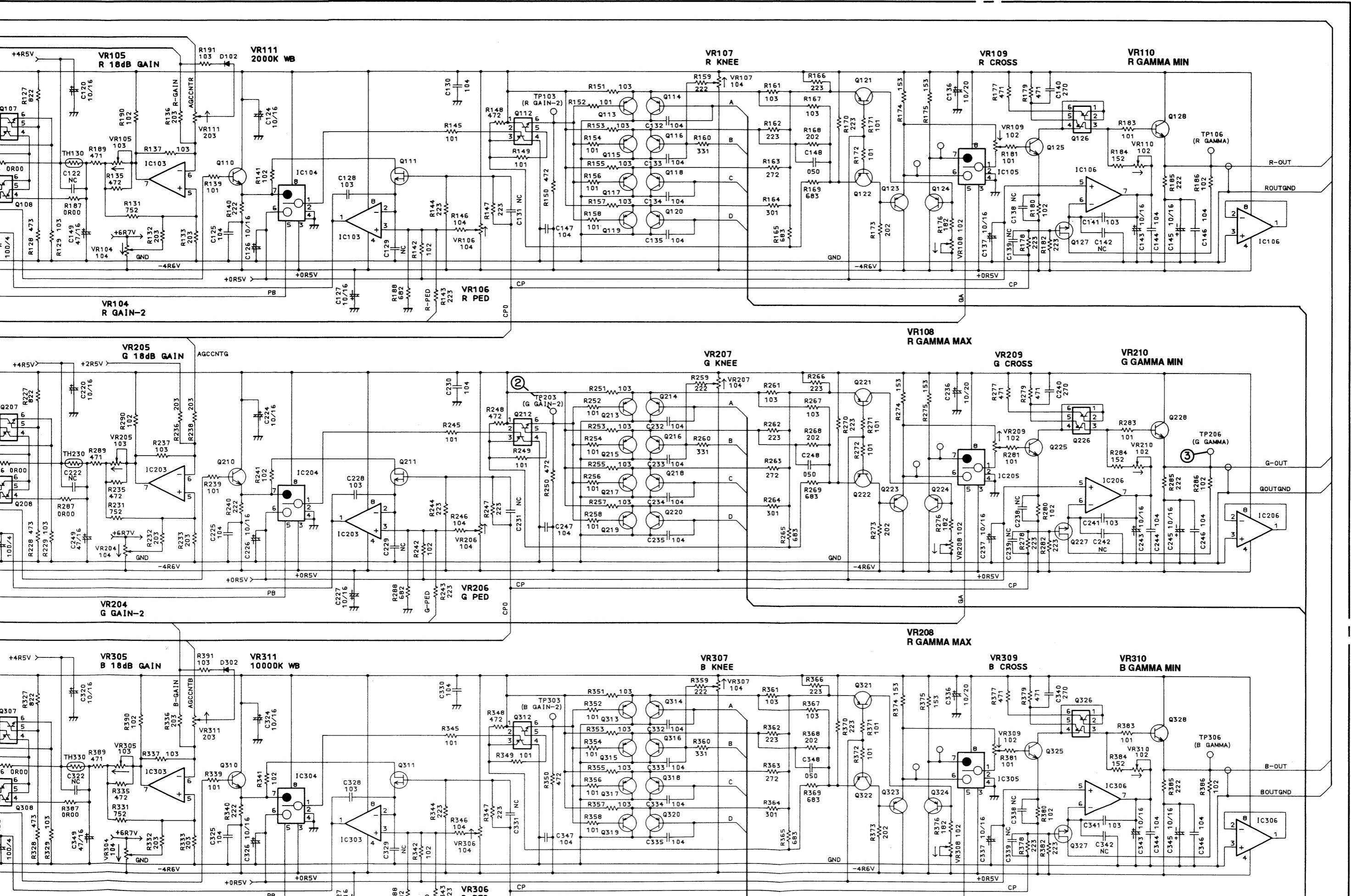
< Index > PREPROCESS BOARD

IC1	A1, C1, D1	Q201
IC3	A2	Q202
IC5	A3	Q203
IC6	A5	Q204
IC7	A6	Q205
IC8	A7	Q206
IC101	A3	Q207
IC102	D2, D3	Q208
IC103	D4	Q210
IC104	D4	Q211
IC105	D6	Q212
IC106	D7	Q213
IC201	A3, C3	Q214
IC202	C2, C3	Q215
IC203	C4	Q216
IC204	C4	Q217
IC205	C6	Q218
IC206	C7	Q219
IC301	A3, B3	Q220
IC302	B2, B3	Q221
IC303	B4	Q222
IC304	B4	Q223
IC305	B6	Q224
IC306	B7	Q225
Q1	B2	Q226
Q2	A2	Q227
Q3	B3	Q228
Q4	A3	Q301
Q5	B4	Q302
Q6	B4	Q303
Q7	A4	Q304
Q8	A4	Q305
Q9	B4	Q306
Q10	A4	Q307
Q11	A4	Q308
Q12	A4	Q310
Q13	A4	Q311
Q14	A5	Q312
Q15	A5	Q313
Q16	A5	Q314
Q17	A6	Q315
Q18	A6	Q316
Q19	A6	Q317
Q201	D2	Q318
Q202	D2	Q319
Q203	D2	Q320
Q204	D3	Q321
Q205	D3	Q322
Q206	D3	Q323

PREPROCESS BOARD

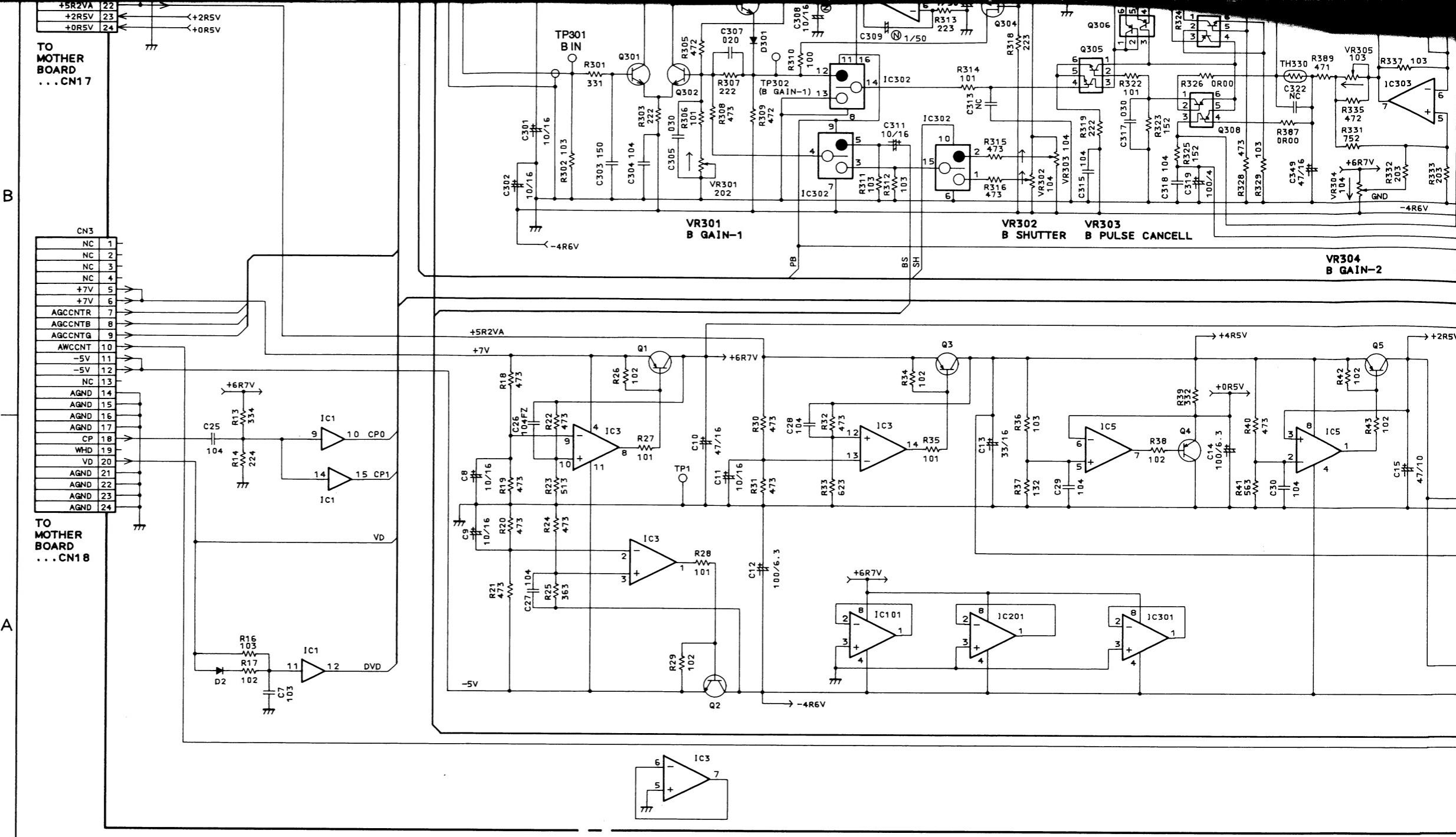


M OF PREPROCESS BOARD (WV-E550E)



Q7	A4	Q304
Q8	A4	Q305
Q9	B4	Q306
Q10	A4	Q307
Q11	A4	Q308
Q12	A4	Q310
Q13	A4	Q311
Q14	A5	Q312
Q15	A5	Q313
Q16	A5	Q314
Q17	A6	Q315
Q18	A6	Q316
Q19	A6	Q317
Q101	D2	Q318
Q102	D2	Q319
Q103	D2	Q320
Q104	D3	Q321
Q105	D3	Q322
Q106	D3	Q323
Q107	D3	Q324
Q108	D3	Q325
Q110	D4	Q326
Q111	D4	Q327
Q112	D5	Q328
Q113	D5	D2
Q114	D5	D101
Q115	D5	D102
Q116	D5	D201
Q117	D5	D301
Q118	D5	D302
Q119	D5	
Q120	D5	
Q121	D6	
Q122	D6	
Q123	D6	
Q124	D6	
Q125	D6	
Q126	D6	
Q127	D6	
Q128	D7	

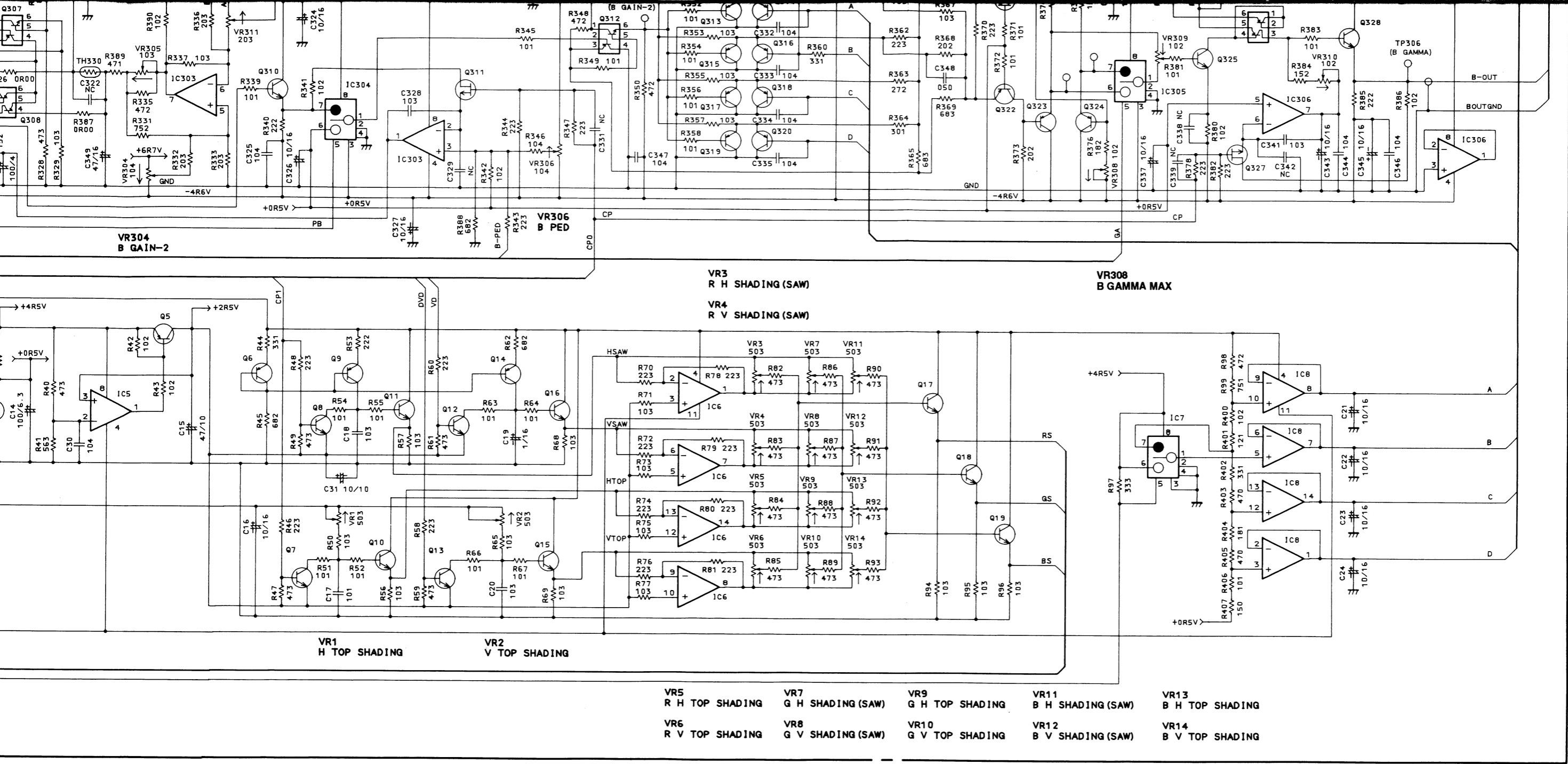
	B	C	E		B	C	E
Q1	6.3	6.7	7.0	Q201	0	6.7	-0.6
2	-4.5	-4.5	-5.2	202	0.1	1.3	-0.6
3	4.5	4.5	5.2	203	1.3	6.7	0.6
4	-0.2	0	0.5	204	0	-2.2	0
5	3.9	2.5	4.6	210	2.1	6.7	1.3
6	5.8	5.8	6.5	211	0.6	-2.2	0.8
7	1.0	4.1	2.5	213	0.6	0	1.3
8	1.0	3.1	2.5	214	2.1	0	1.3
9	5.8	3.2	6.4	215	0.6	0	1.3
10	4.1	6.7	3.8	216	1.2	0	1.3
11	3.2	6.7	2.6	217	0.6	0	1.3
12	0.9	0	2.5	218	0.8	0	1.3
13	0.9	4.3	2.5	219	0.6	0	1.3
14	5.9	0	6.4	220	0.6	0	1.3
15	4.8	0	3.8	221	0.5	-3.2	1.2
16	2.9	-0.2	2.3	222	0.5	-4.0	1.2
17	2.5	6.7	1.9	223	-3.5	-4.6	-2.8
18	2.5	6.7	1.9	224	-3.2	-4.6	-2.5
19	2.3	6.7	6.7	225	-2.9	5.6	-3.6
101	0	6.7	-0.7	227	0.5	2.2	1.3
102	0	1.3	-0.7	228	2.4	6.7	1.6
103	1.3	6.7	0.6	301	0	6.7	-0.7
104	0	-2.2	0	302	0	1.4	-0.7
110	1.9	6.7	1.1	303	1.3	6.7	0.6
111	0.6	-2.2	0.7	304	0	-2.2	0
113	0	0	1.3	310	2.0	6.7	1.3
114	2.1	0	1.3	311	0.6	-2.2	1.1
115	0.6	0	1.3	313	0.7	0	1.4
116	1.1	0	1.3	314	2.1	0	1.4
117	0.6	0	1.3	315	0.7	0	1.4
118	0.8	0	1.3	316	1.2	0	1.4
119	0.6	0	1.3	317	0.7	0	1.4
120	0.6	0	1.3	318	0.8	0	1.4
121	0.5	-3.6	1.2	319	0.7	0	1.4
122	0.5	-4.0	1.2	320	0.6	0	1.4
123	-3.5	-4.6	-2.9	321	0.5	-3.2	1.2
124	-3.6	-4.6	-2.9	322	0.5	-3.5	1.2
125	-2.9	5.6	-3.8	323	-3.5	-4.6	-2.8
127	0.5	-2.2	1.1	324	-3.2	-4.6	-2.5
128	2.3	6.7	1.5	325	-2.9	5.6	-3.6



PREPROCESS BOARD

	IC5	IC6	IC7	IC8	C101	C201	C301
in 1	3.0	2.4	1.2	0.6	5.5	5.5	5.5
2	2.5	0	0	0.6	5.5	5.5	5.5
3	2.5	2.5	0	0	0	0.3	0
4	0	6.7	0	0	-4.6	-4.6	-4.6
5	0	2.5	0	0	0	0	0
6	0	2.5	4.6	0	0	0	0
7	0	0	1.2	0	0.4	0.4	0.8
8	4.6	1.3	4.6	0	6.8	6.8	6.7
9		2.5		2.1			
10		2.5		2.1			
11		-4.6		-4.6			
12		2.5		0.8			
13		2.5		0			
14		1.3		0.8			

Q105	Q106	Q107	Q108	Q112	Q126	Q205	Q206	Q207	Q208	Q212	Q226	Q305	Q306	Q307	Q308	Q312	Q326	
1	5.2	6.0	6.8	5.2	6.7	5.4	5.2	6.0	6.7	0	6.7	5.4	5.2	6.0	6.7	0.1	6.7	5.5
2	0	6.0	5.1	5.2	0.7	5.4	0	6.0	5.2	4.6	0.8	5.4	0.1	6.0	5.2	4.6	1.1	5.5
3	6.0	5.2	5.7	4.5	1.3	2.3	6.0	5.2	5.8	1.6	1.4	2.4	6.0	5.2	5.7	1.9	1.7	2.4
4	0	6.0	5.2	1.4	0	5.5	0	0	5.2	4.5	0	5.4	0.1	6.0	5.2	4.5	0	5.5
5	-0.7	6.7	5.7	4.6	1.3	6.2	-0.7	1.8	5.7	5.2	1.4	6.2	-0.6	6.7	5.7	5.2	1.7	6.2
6	-0.7	6.7	5.1	0	0.7	6.2	-0.7	6.7	5.2	5.2	0.8	6.2	-0.6	6.7	5.2	5.2	1.1	6.2



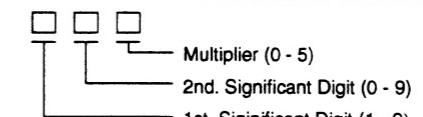
4

5

6

7

Note: The value indicated in the schematic diagram should be read as follows:



<Example>

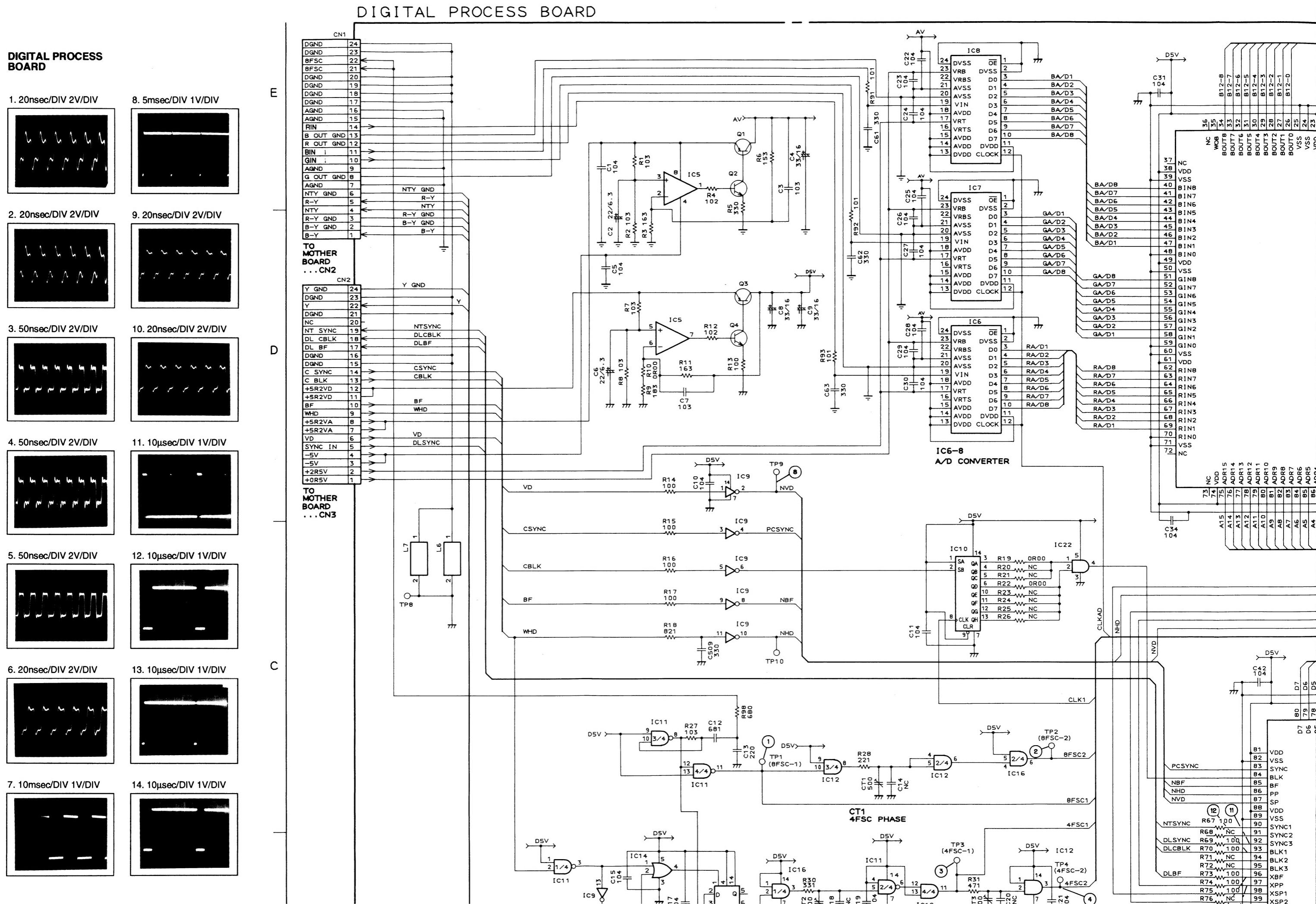
For Resistor:

$$\begin{aligned} 330 &\rightarrow 33 \times 10^0 = 33 \Omega \\ 561 &\rightarrow 56 \times 10^1 = 560 \Omega \\ 123 &\rightarrow 12 \times 10^3 = 12k \Omega \\ OR00 &= 0 \Omega \end{aligned}$$

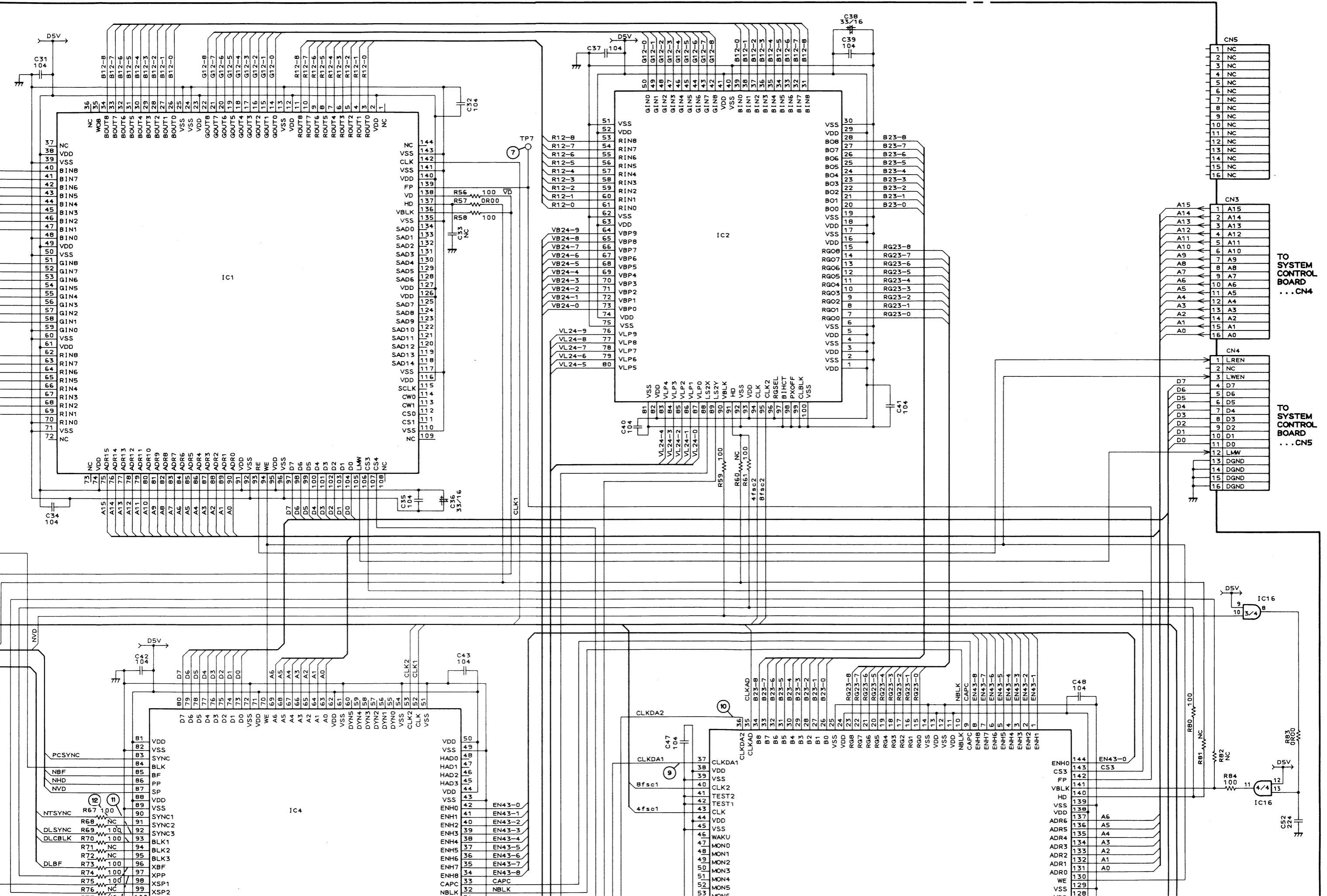
For Capacitor:

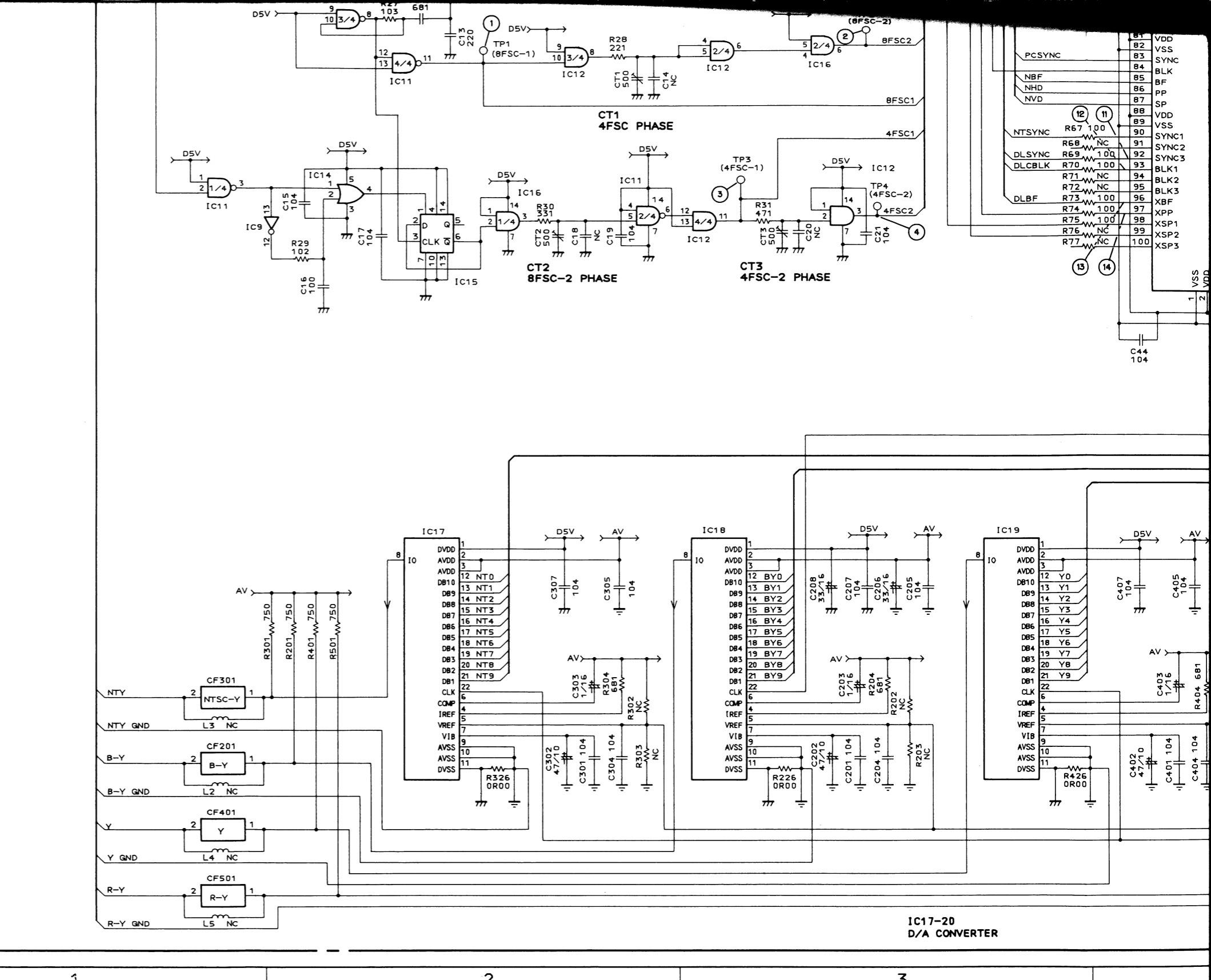
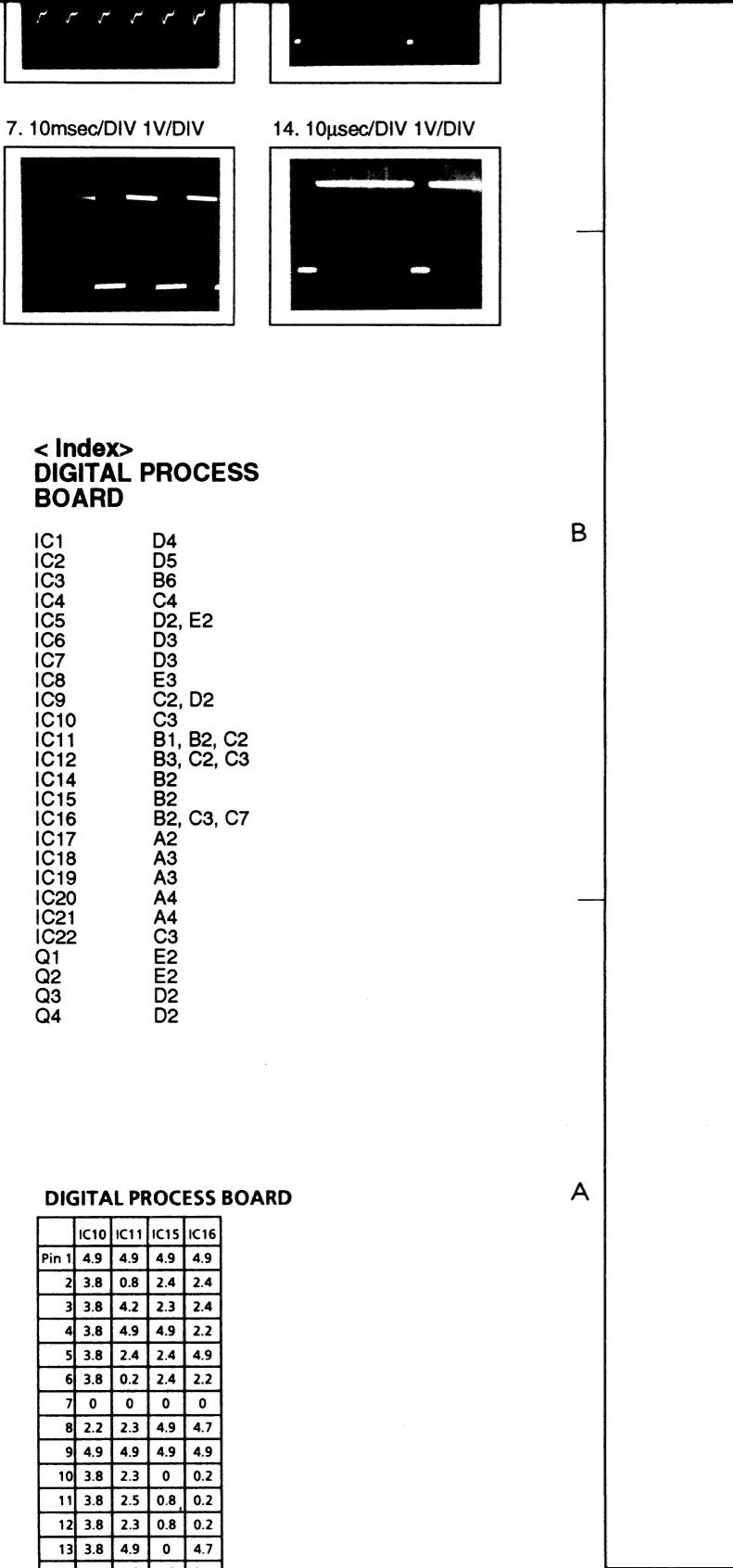
$$\begin{aligned} 820 &\rightarrow 82 \times 10^0 = 82 \text{ pF} \\ 102 &\rightarrow 10 \times 10^2 = 1000 \text{ pF} = 0.001 \mu\text{F} \\ 104 &\rightarrow 10 \times 10^4 = 100000 \text{ pF} = 0.1 \mu\text{F} \\ \text{The suffix attached to capacitance indicates} \\ \text{a type of capacitor.} \end{aligned}$$

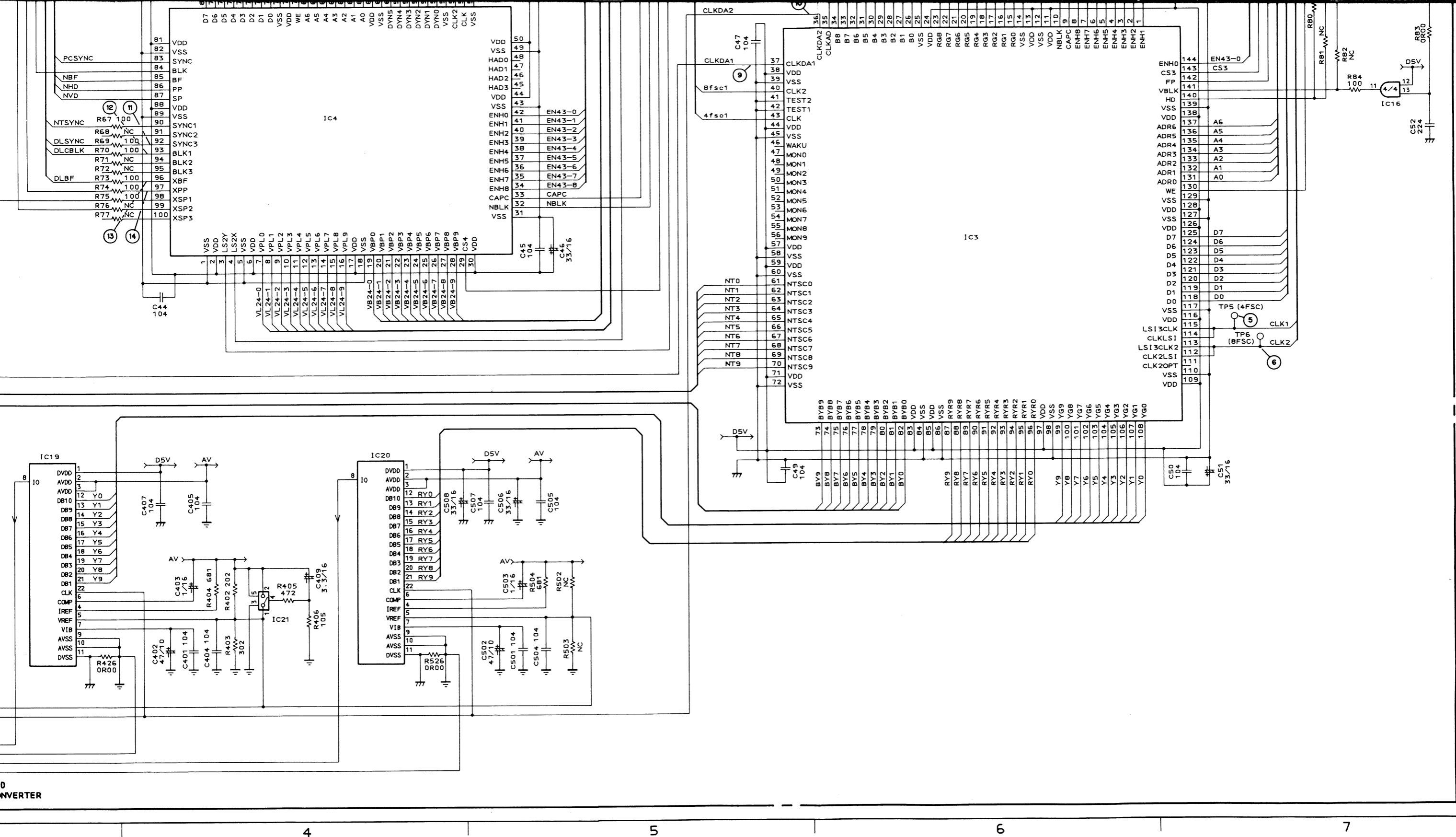
SCHEMATIC DIAGRAM OF DIGITAL PROCESS BOARD



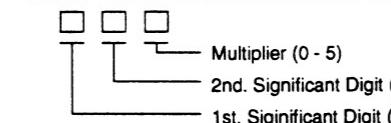
OF DIGITAL PROCESS BOARD (WV-E550E)







Note: The value indicated in the schematic diagram should be read as follows:



<Example>

For Resistor:

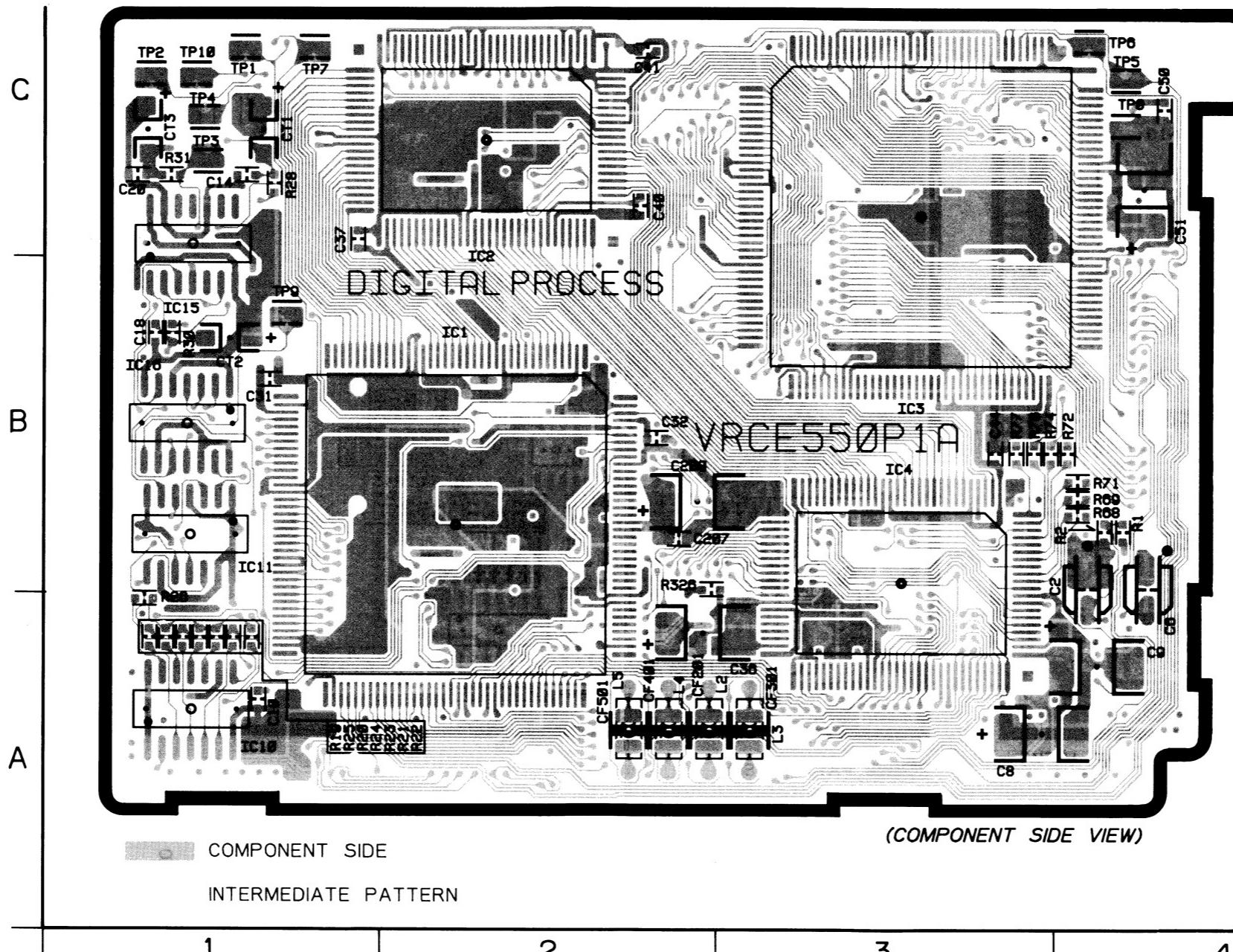
$$\begin{aligned} 330 &\rightarrow 33 \times 10^0 = 33 \Omega \\ 561 &\rightarrow 56 \times 10^1 = 560 \Omega \\ 123 &\rightarrow 12 \times 10^3 = 12k \Omega \\ 0R00 &= 0 \Omega \end{aligned}$$

For Capacitor:

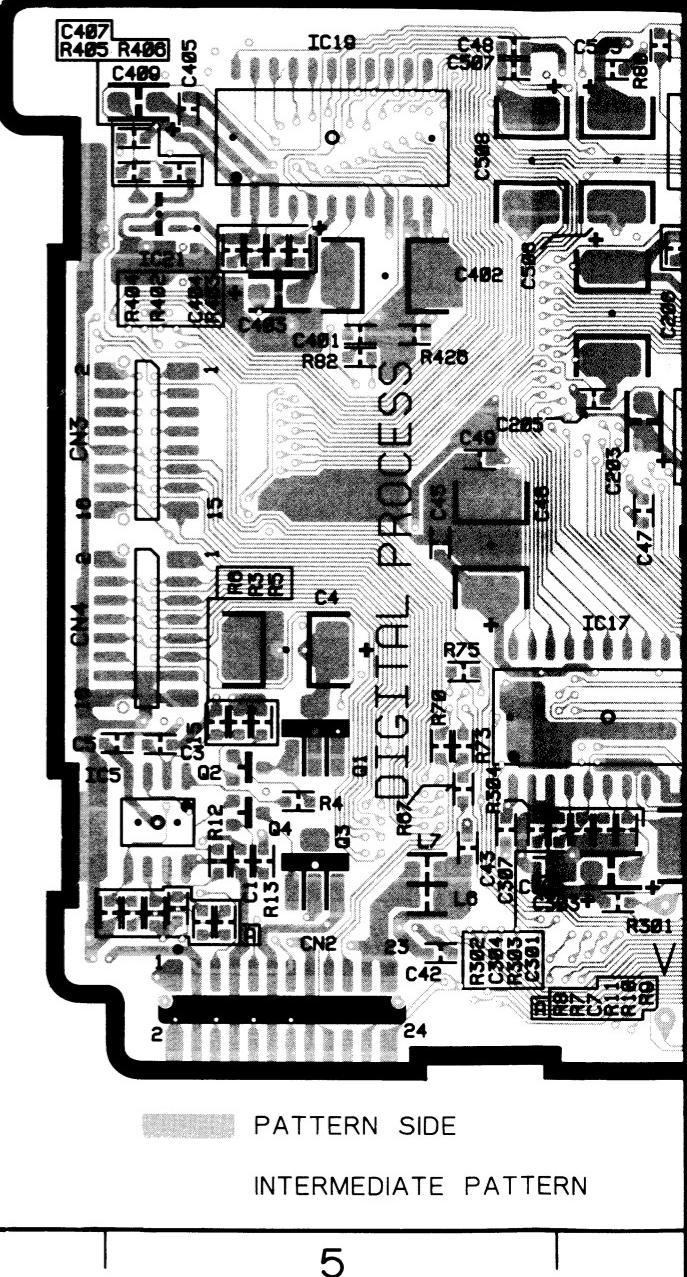
$$\begin{aligned} 820 &\rightarrow 82 \times 10^0 = 82 \text{ pF} \\ 102 &\rightarrow 10 \times 10^2 = 1000 \text{ pF} = 0.001 \mu\text{F} \\ 104 &\rightarrow 10 \times 10^4 = 100000 \text{ pF} = 0.1 \mu\text{F} \\ \text{The suffix attached to capacitance indicates} \\ \text{a type of capacitor.} \end{aligned}$$

CONDUCTOR VIEW OF DIGITAL PROCESS BOARD (WV-E550E)

DIGITAL PROCESS BOARD



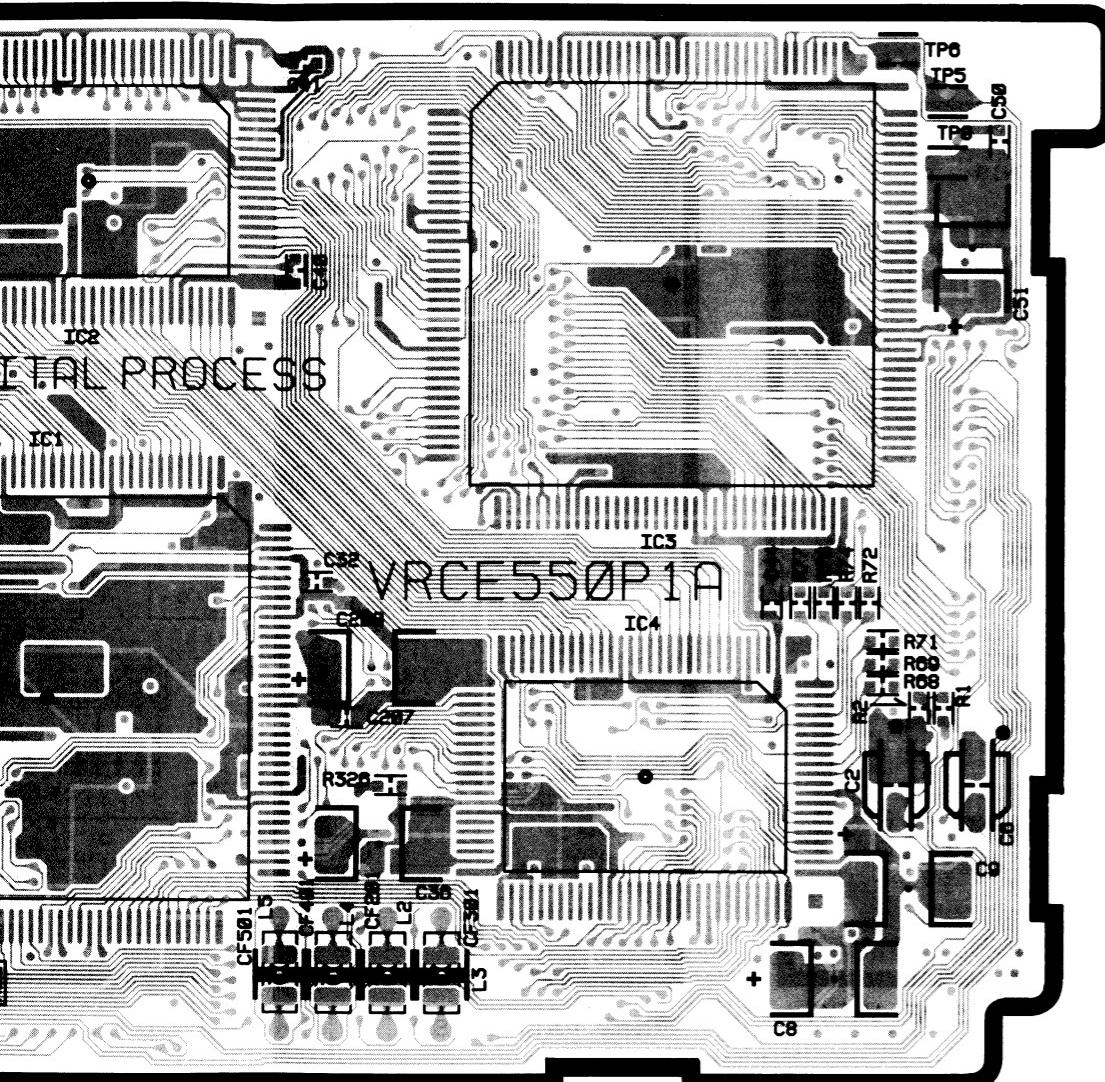
DIGITAL PROCESS BOARD



- 86 -

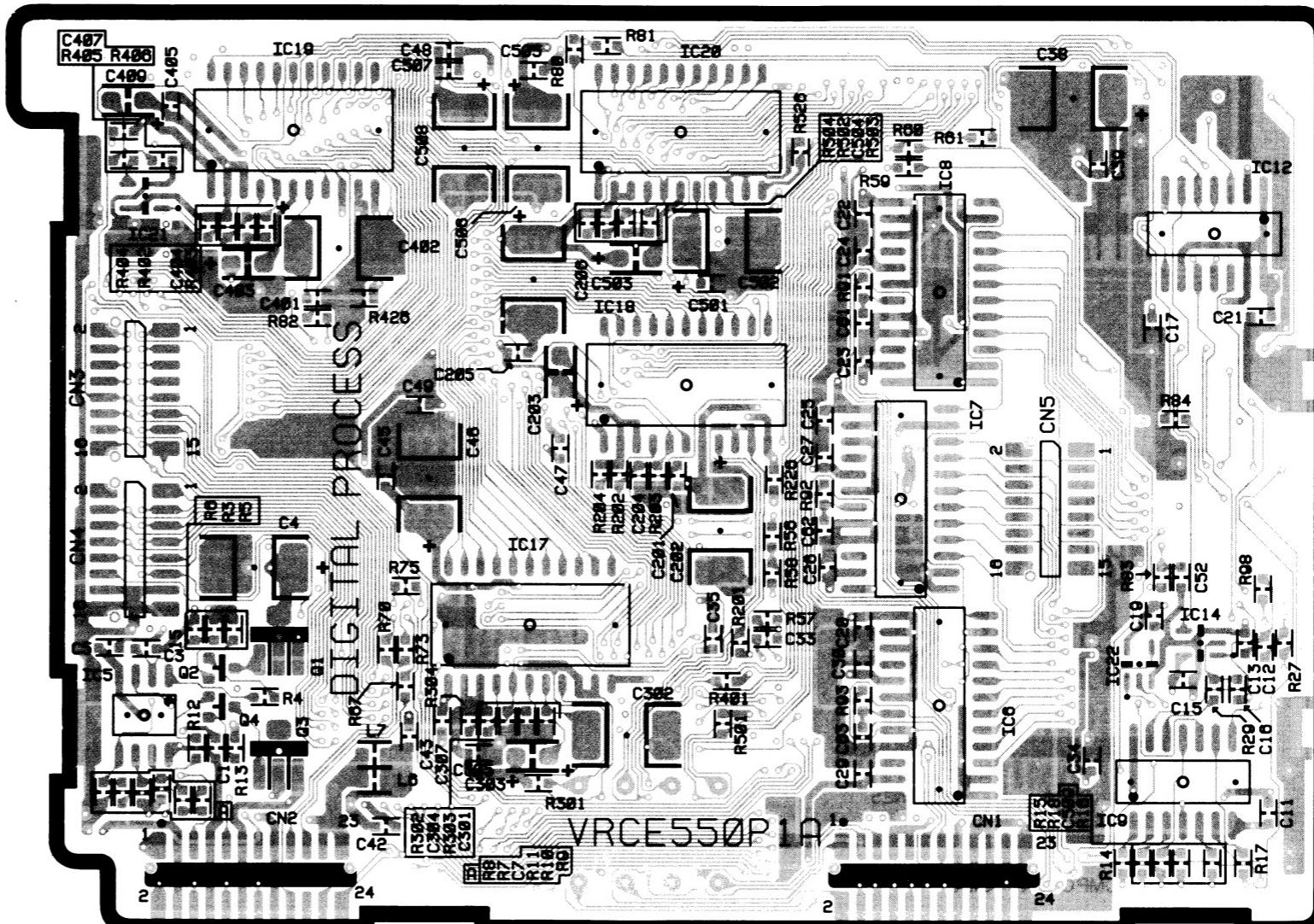
CONDUCTOR VIEW OF DIGITAL PROCESS BOARD (WV-E550E)

ESS BOARD



(COMPONENT SIDE VIEW)

DIGITAL PROCESS BOARD



PATTERN SIDE

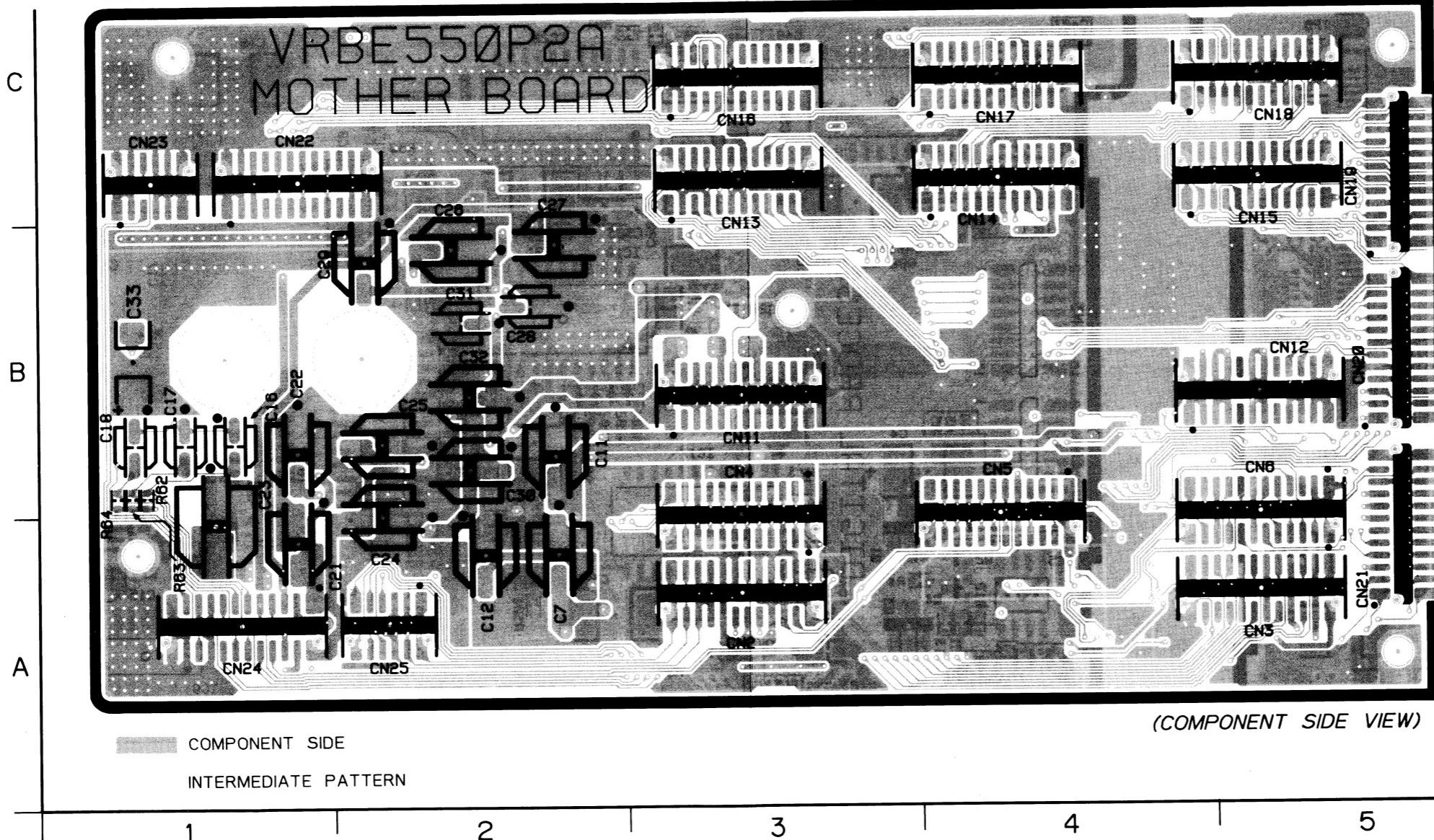
INTERMEDIATE PATTERN

2 | 3 | 4

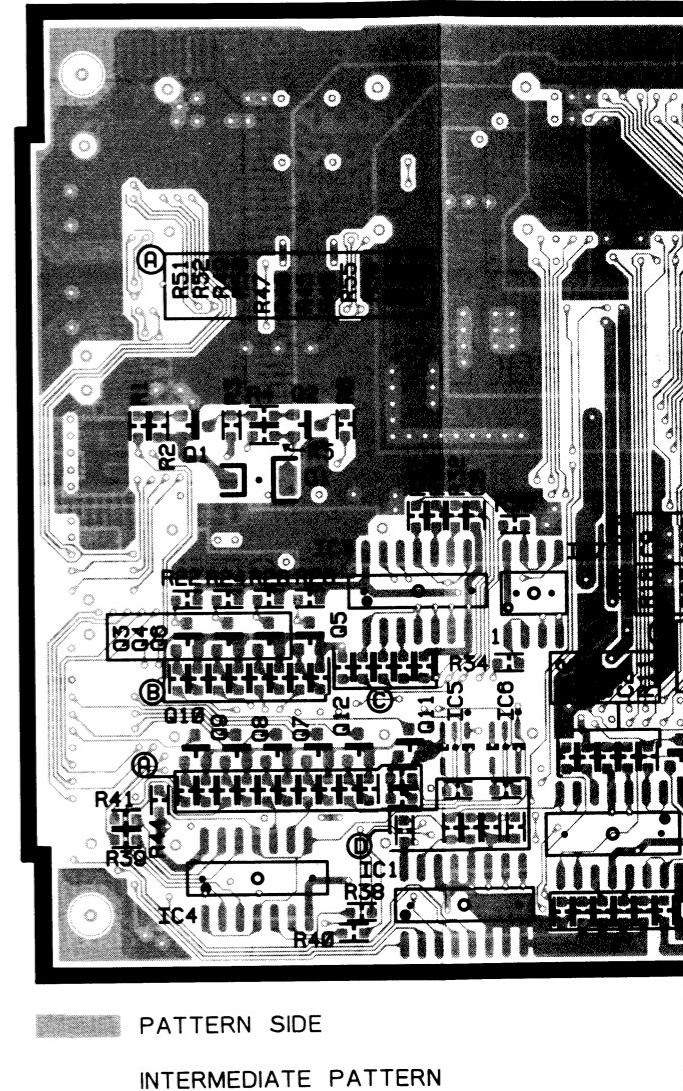
CONDUCTOR VIEW OF MOTHER BOARD (WV-E550E)

<Index>	
	MOTHER BOARD
IC1	A6
IC2	A7
IC3	B6
IC4	A6
IC5	A7
IC6	A7
IC7	B7
IC8	B9
IC9	A9
IC10	A9
IC11	A9
Q1	B6
Q2	B6
Q3	B6
Q4	B6
Q5	B6
Q6	B6
Q7	A6
Q8	A6
Q9	A6
Q10	A6
Q11	A6
Q12	A6
Q13	A10
Q14	A10
Q15	B10
Q16	B10
Q17	B9
Q18	B9
Q19	B9
Q20	B9
Q21	B9
Q22	B8
Q23	B8
Q24	B9
Q25	B9
Q26	B8
Q27	B8
Q28	B9
Q29	B9
D1	B6
D2	A7
D6	B10

MOTHER BOARD

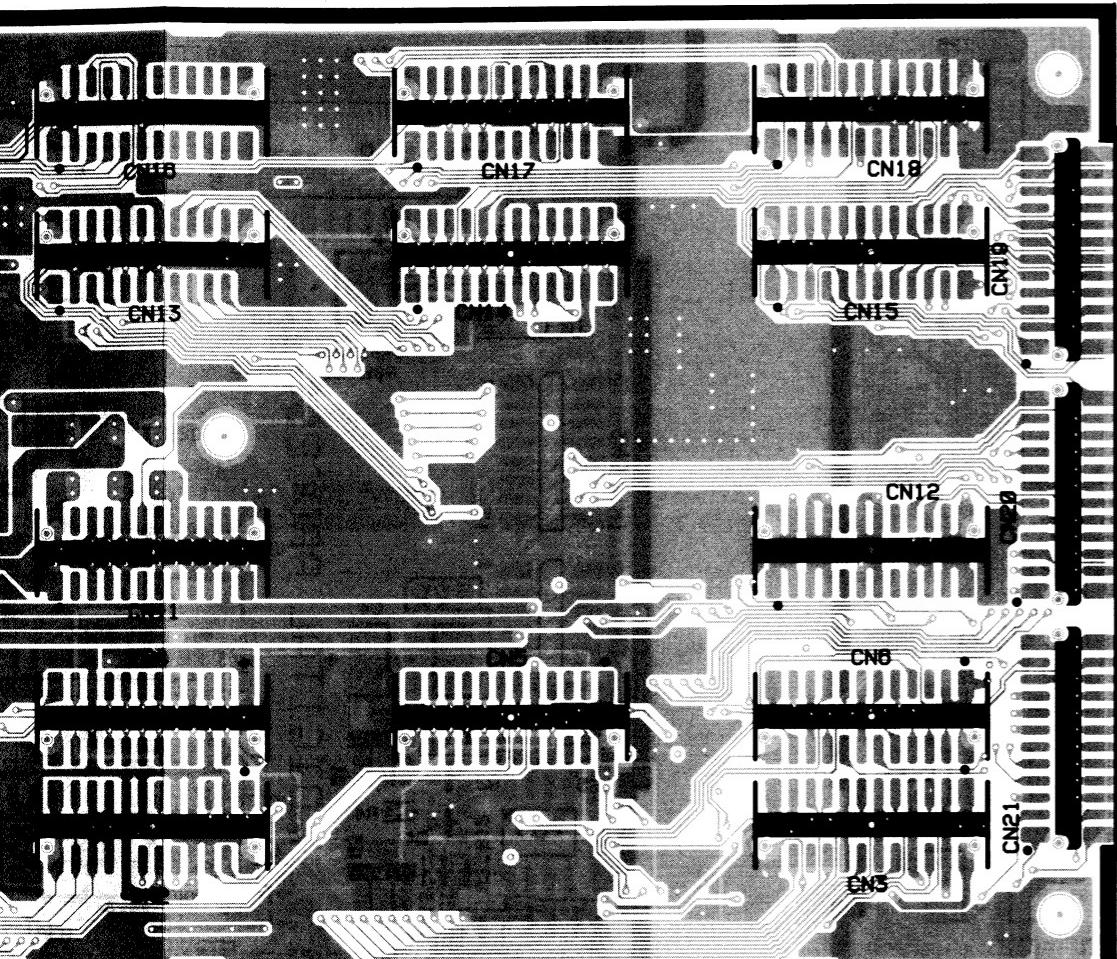


MOTHER BOARD

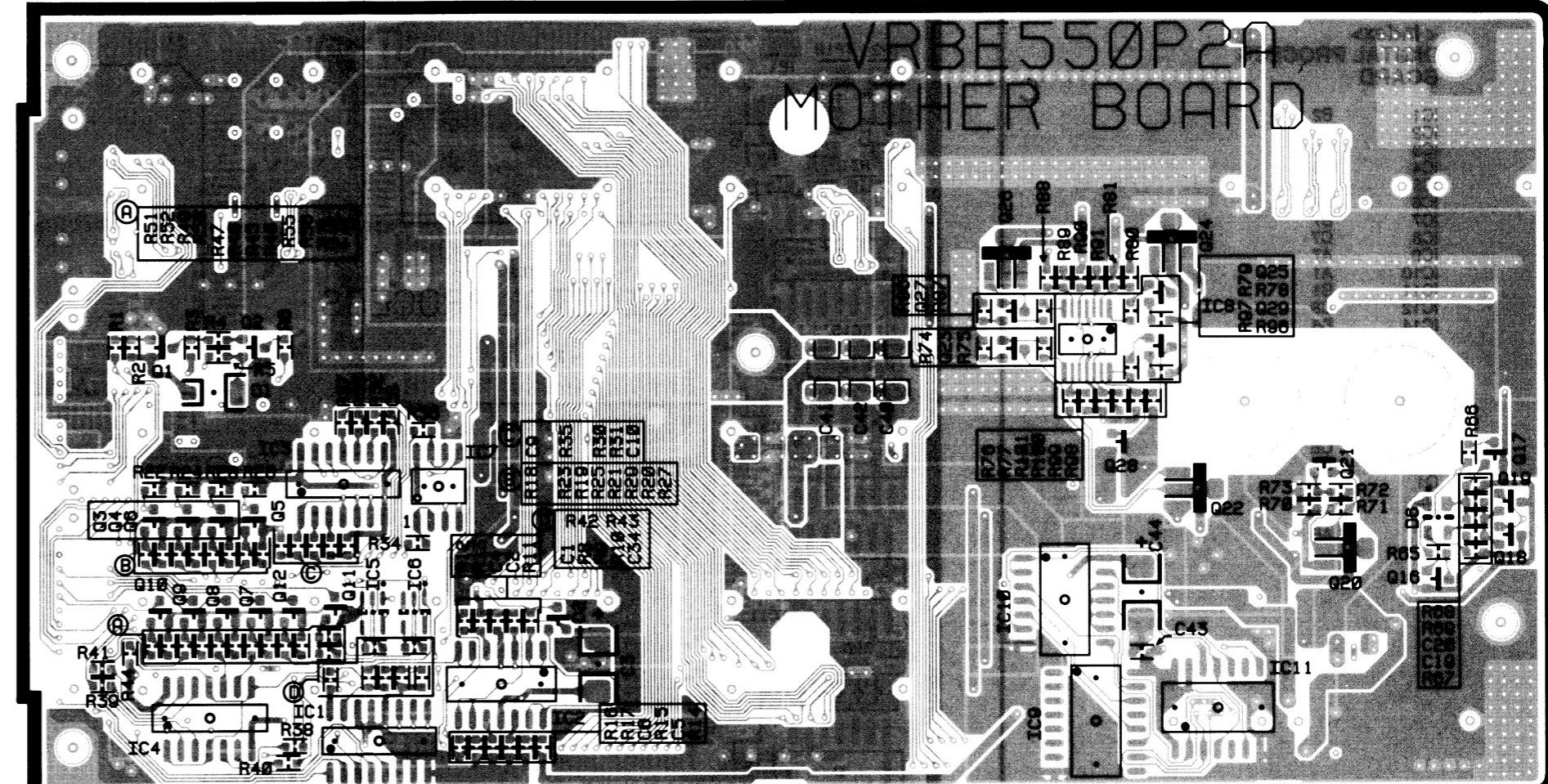


CONDUCTOR VIEW OF MOTHER BOARD (WV-E550E)

MOTHER BOARD



(COMPONENT SIDE VIEW)



(PATTERN SIDE VIEW)

PATTERN SIDE

INTERMEDIATE PATTERN

3 | 4 | 5 | 6 | 7 | 8 | 9 | 10

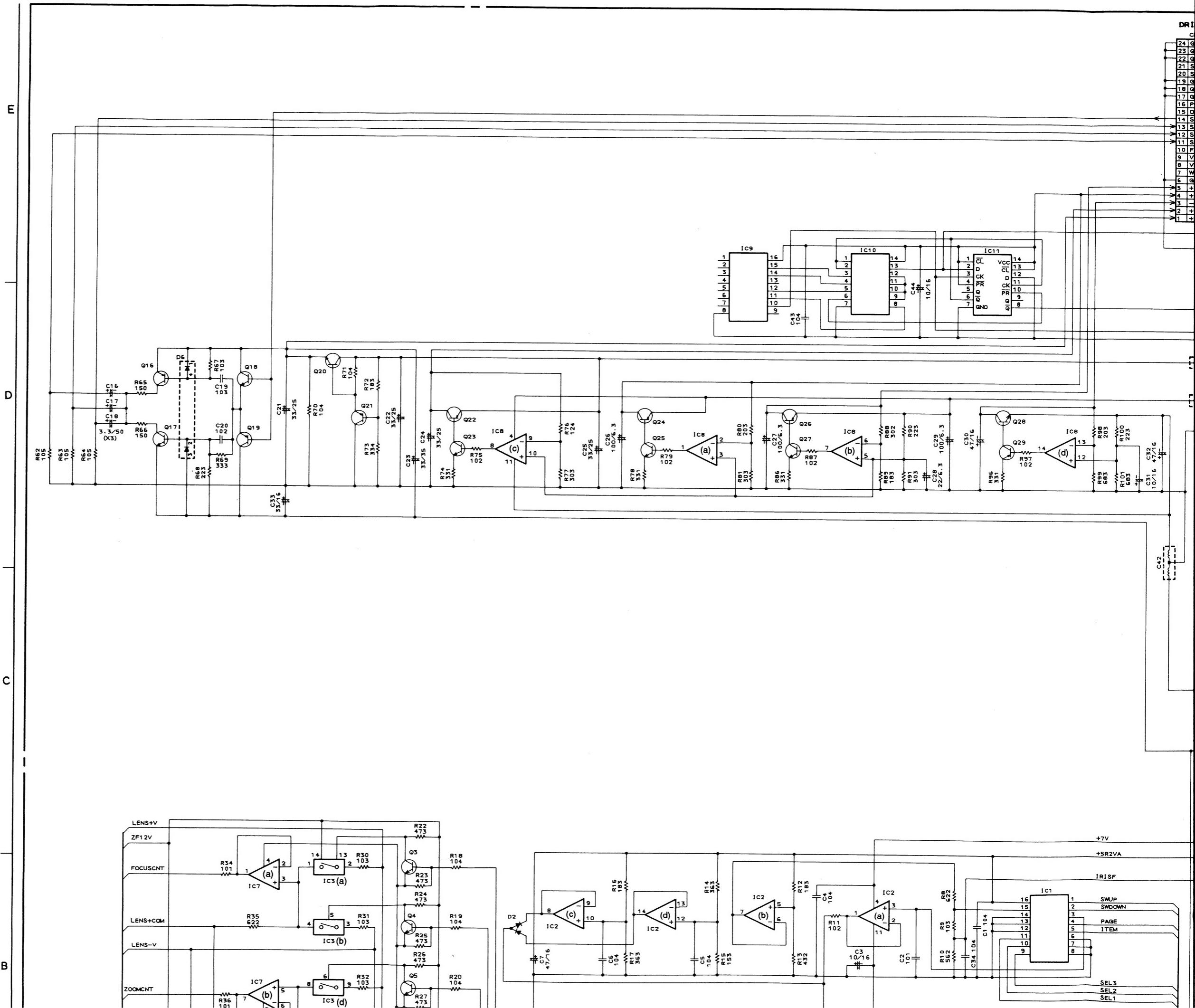
SCHEMATIC DIAGRAM OF MOTHER BO

MOTHER BOARD

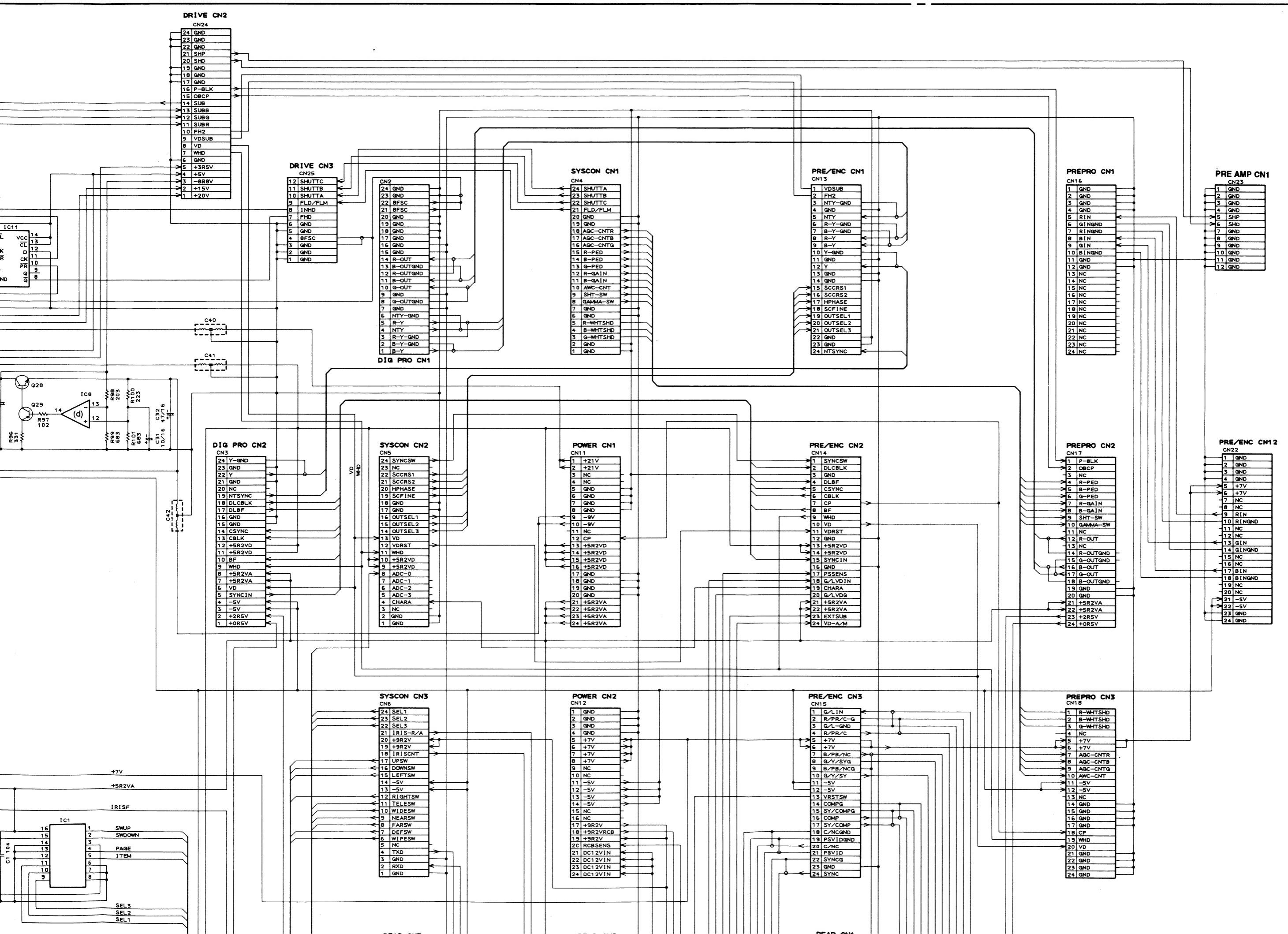
<Index>

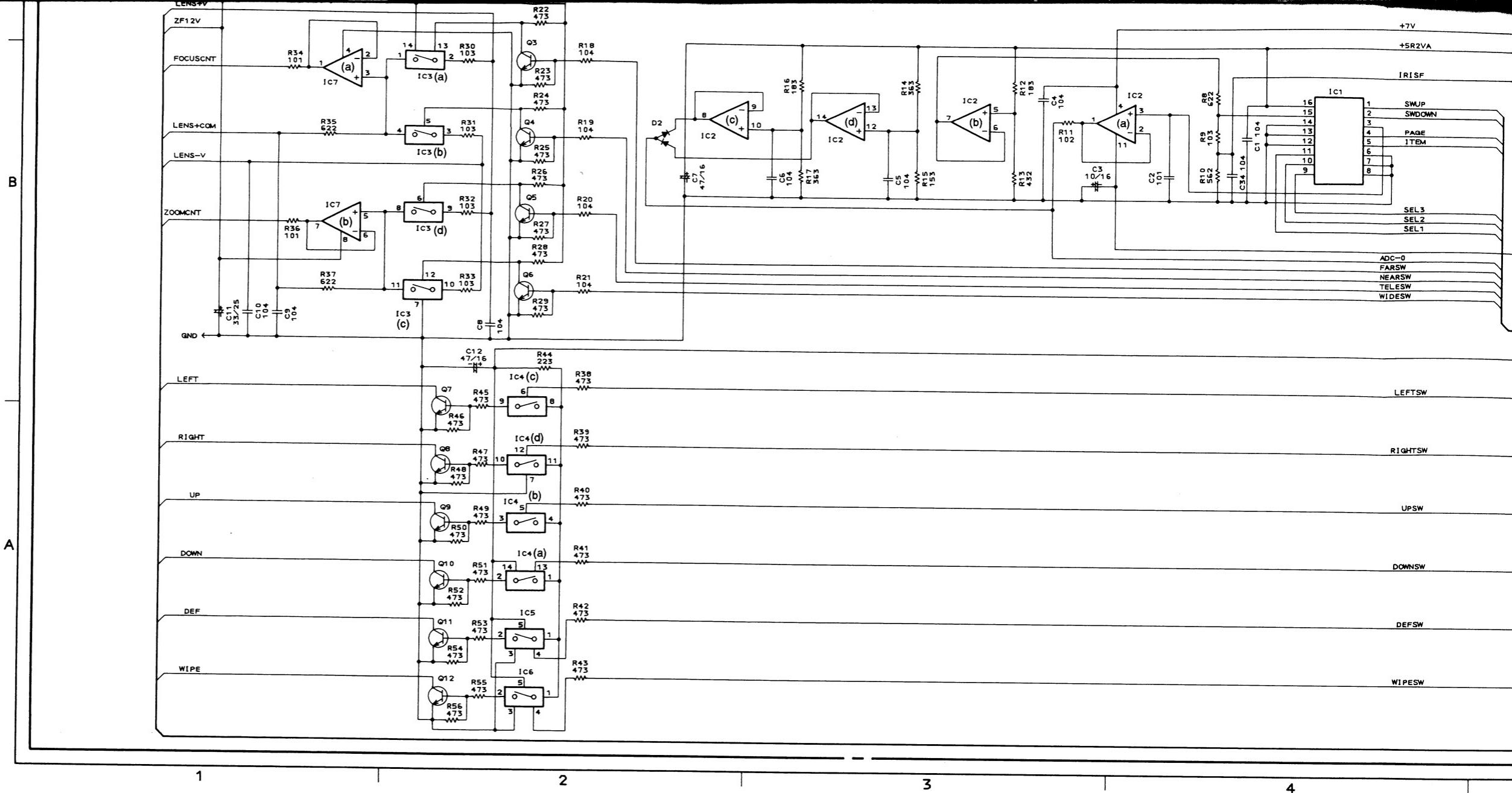
MOTHER BOARD

IC1 B4
 IC2 B2, B3, B4
 IC3 B2
 IC4 A2, B2
 IC5 A2
 IC6 A2
 IC7 B1
 IC8 D2, D3, D4
 IC9 E3
 IC10 E3
 IC11 E4
 Q1 A8
 Q2 A8
 Q3 B2
 Q4 B2
 Q5 B2
 Q6 B2
 Q7 B2
 Q8 A2
 Q9 A2
 Q10 A2
 Q11 A2
 Q12 A2
 Q13 A2
 Q14 A2
 Q15 A2
 Q16 A2
 Q17 D1
 Q18 D1
 Q19 D1
 Q20 D2
 Q21 D2
 Q22 D2
 Q23 D3
 Q24 D3
 Q25 D3
 Q26 D3
 Q27 D3
 Q28 D4
 Q29 D4
 D1 D4
 D2 B8
 D3 B2
 D4 D1
 D5 D2
 D6 D6



M OF MOTHER BOARD (WV-E550E)

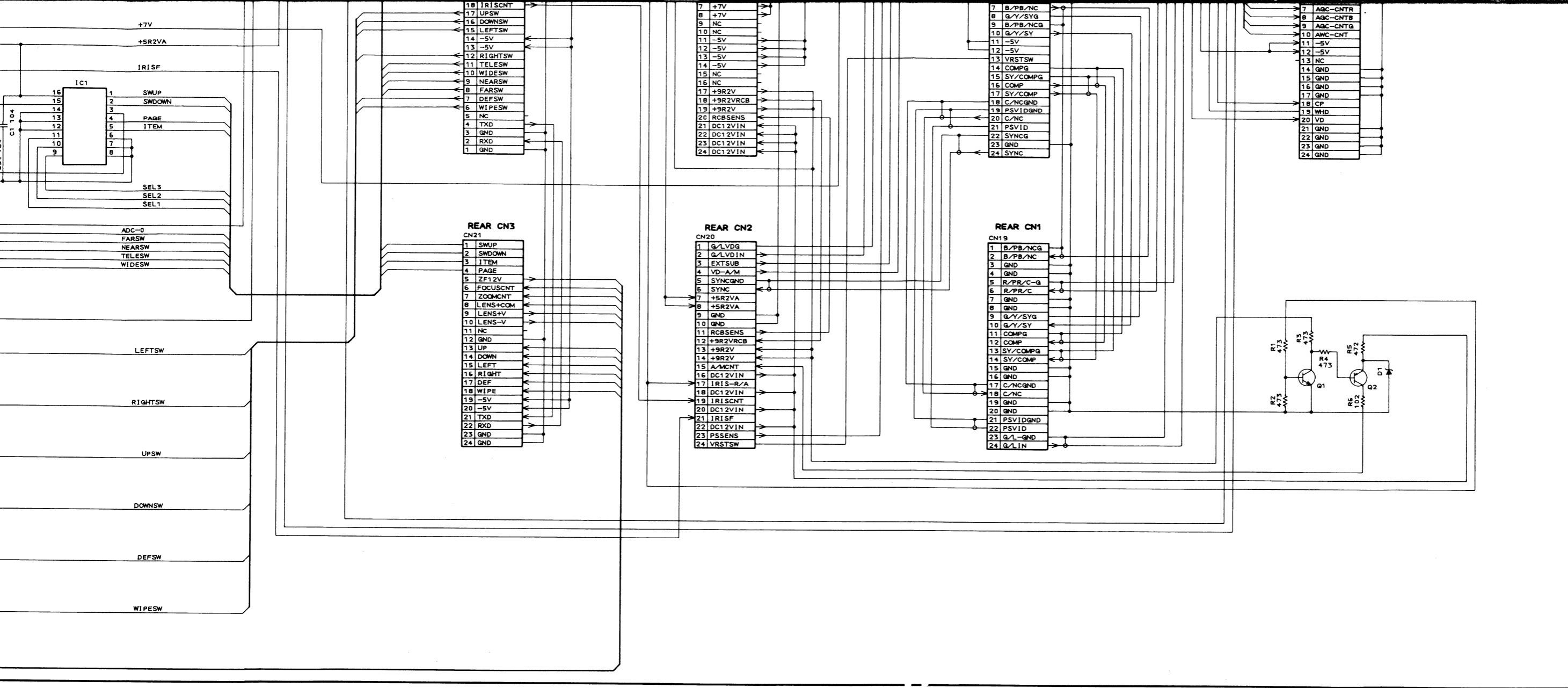




MOTHER BOARD

	IC1	IC2	IC3	IC4	IC5	IC6	IC7	IC8	IC9	IC10	IC11
Pin 1	5.2	0.1	0.3	5.2	5.2	5.2	0.2	1.6	0	4.5	4.9
2	5.2	0	1.9	0	0	0	2.2	3.0	2.5	0.2	0.4
3	0.1	0	0.4	-	0	0	0.3	3.0	2.5	2.2	2.4
4	5.2	0	0.4	5.2	0	0	0	5.2	2.5	2.2	5.0
5	5.2	0	0	0	5.2	5.2	0.3	3.0	2.5	2.2	0.5
6	0	0	0	0			0.2	0.2	4.9	1.8	
7	0	0	2.1	0			0.2	0.6	2.7	0	0
8	0	3.5	0.3	5.2			0	0.6	0	0	4.4
9	0.1	3.5	0.4	0			3.0	0.3	5.0	0.6	
10	0.1	3.5	2.1	0			3.0	0.2	0.2	4.9	
11	0.1	-5.2	0.4	5.2			-9.0	0	5.0	4.5	
12	0.1	1.5	0	0			-6.8	2.2	5.0	0	
13	0	0	0	0			-6.8	2.5	0.4	5.0	
14	0	1.5	0	5.2			-	0.2	5.0	5.0	
15	0.1							2.2			
16	5.2							5.0			

	B	C	E
Q1	0	9.2	0
2	9.2	2.2	8.3
3	0.6	0	0
4	0.6	0	0
5	0.6	0	0
6	0.6	0	0
7	0	0.5	0
8	0	0.5	0
9	0	0.5	0
10	0.1	-	0
11	0	4.0	0
12	0	0.5	0
16	18.9	-4.9	18.8
17	-4.6	-4.9	-5.2
18	4.9	18.8	4.4
19	4.9	-5.2	4.4
20	19.0	21.0	18.8
21	20.0	0	19.3
22	20.5	14.9	21.1
23	0.6	20.5	0
24	1.2	5.0	5.2
25	1.5	4.4	0.9
26	4.5	3.5	5.2
27	0.6	4.5	0
28	-8.4	-8.8	-8.9
29	-	-8.4	0



4

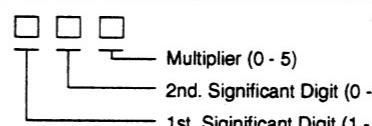
5

6

7

8

Note: The value indicated in the schematic diagram should be read as follows:



<Example>

For Resistor:

$$\begin{aligned} 330 &\rightarrow 33 \times 10^0 = 33 \Omega \\ 561 &\rightarrow 56 \times 10^1 = 560 \Omega \\ 123 &\rightarrow 12 \times 10^3 = 12k \Omega \\ 0R00 &= 0 \Omega \end{aligned}$$

For Capacitor:

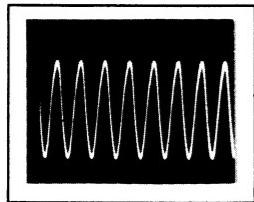
$$\begin{aligned} 820 &\rightarrow 82 \times 10^0 = 82 \text{ pF} \\ 102 &\rightarrow 10 \times 10^2 = 1000 \text{ pF} = 0.001 \mu\text{F} \\ 104 &\rightarrow 10 \times 10^4 = 100000 \text{ pF} = 0.1 \mu\text{F} \end{aligned}$$

The suffix attached to capacitance indicates a type of capacitor.

SCHEMATIC DIAGRAM OF SYSTEM COMPOSITION

SYSTEM CONTROL BOARD

1. 0.1μsec/DIV 1V/DIV



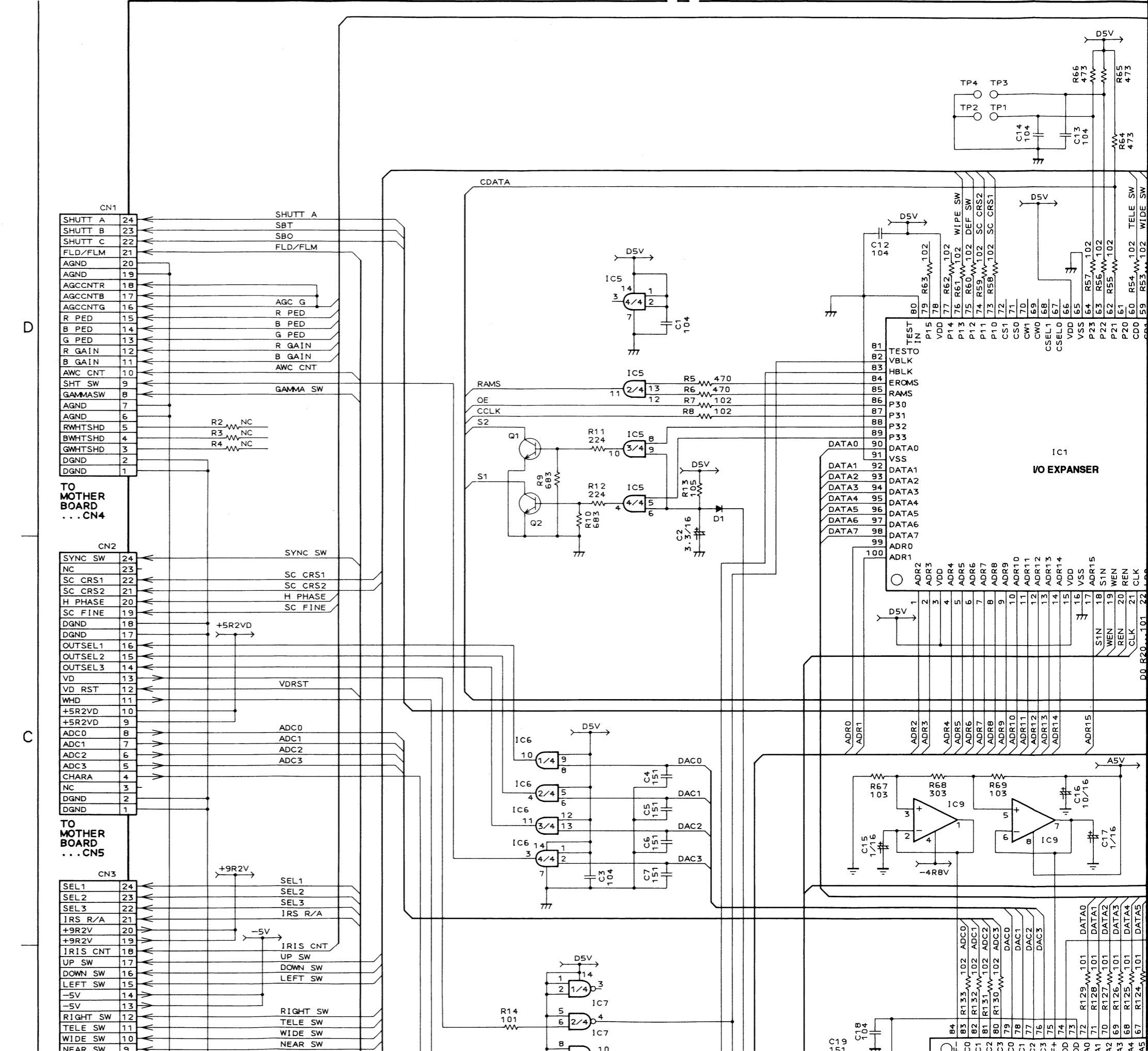
< Index> SYSTEM CONTROL BOARD

IC1	D3
IC2	B3
IC3	C4
IC4	C5
IC5	D2
IC6	C2
IC7	B2
IC8	A ₂ , B ₂
IC9	C ₃
IC10	A ₄
IC12	D ₄
IC13	D ₅
IC14	B ₅ , C ₅
IC15	C ₆
IC16	B ₄ , B ₅
IC17	B ₄
IC18	B ₄
IC19	A ₆ , B ₆
Q1	D ₂
Q2	D ₂
Q9	A ₃
Q10	A ₃
Q11	A ₃
Q12	B ₅
Q13	B ₅
Q14	C ₅
Q15	C ₅
Q16	B ₆
Q17	B ₆
Q18	A ₆
Q19	A ₆
Q20	A ₆
Q21	A ₆
D1	D ₂
D3	A ₃
D4	A ₃
D5	A ₃
D6	A ₃
D7	B ₅
D8	B ₅
D9	C ₅
D10	B ₅

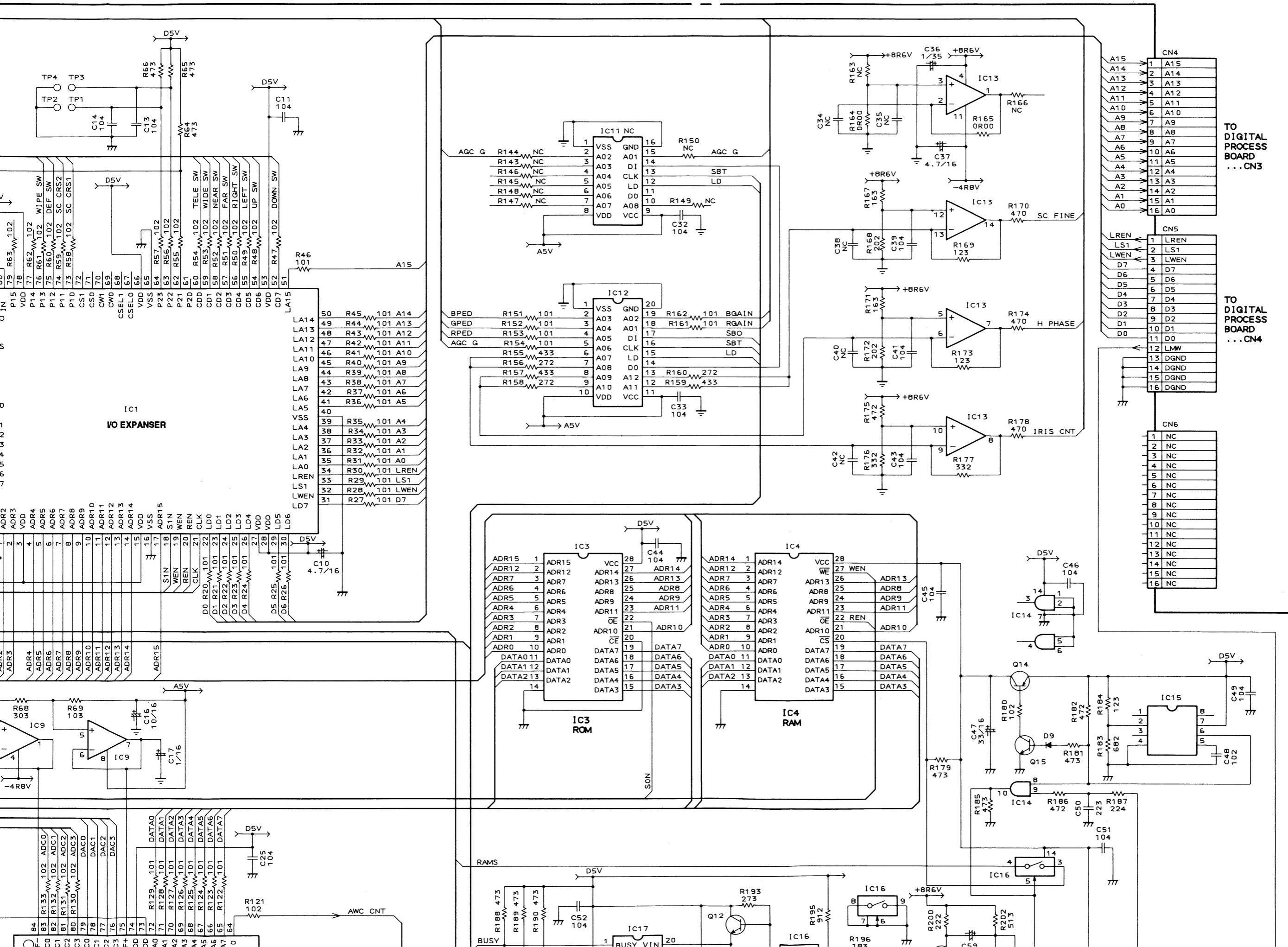
SYSTEM CONTROL BOARD

	B	C	E
Q2	0	2.1	0
9	4.2	4.9	5.0
10	0.7	0.1	0
12	1.7	5.0	1.2
13	0.3	0	0.9

SYSTEM CONTROL BOARD



M OF SYSTEM CONTROL BOARD (WV-E550E)



7	0	0	0	0	3.7	5.0	0	0	2.1	-0.5	2.5
8	0	1.1	5.0	5.0	0.5	4.7	0	0	0	0	2.4
9	4.7	5.0	5.0	5.2		4.6	0	0	0	0	2.4
10	0	0	0	5.0		5.0	5.0	0	0	0	0
11	3.9	5.0	4.2	5.0		5.0	5.0	2.1	-5.2	4.8	
12	3.7	5.0	5.0	5.0		4.7	5.0	0	2.2	5.0	
13	5.0	3.7	0.8	-		4.7	5.0	-	2.2	4.8	
14	5.0	5.0	5.0	5.0		5.0	5.0	0	0.5	0.6	
15									0		
16									5.0		
17									0		
18									0		
19									1.2		
20									1.2		

Note: The value indicated in the schematic diagram should be read as follows:

- Multiplier (0 - 5)
- 2nd. Significant Digit (0 - 9)
- 1st. Significant Digit (1 - 9)

<Example>

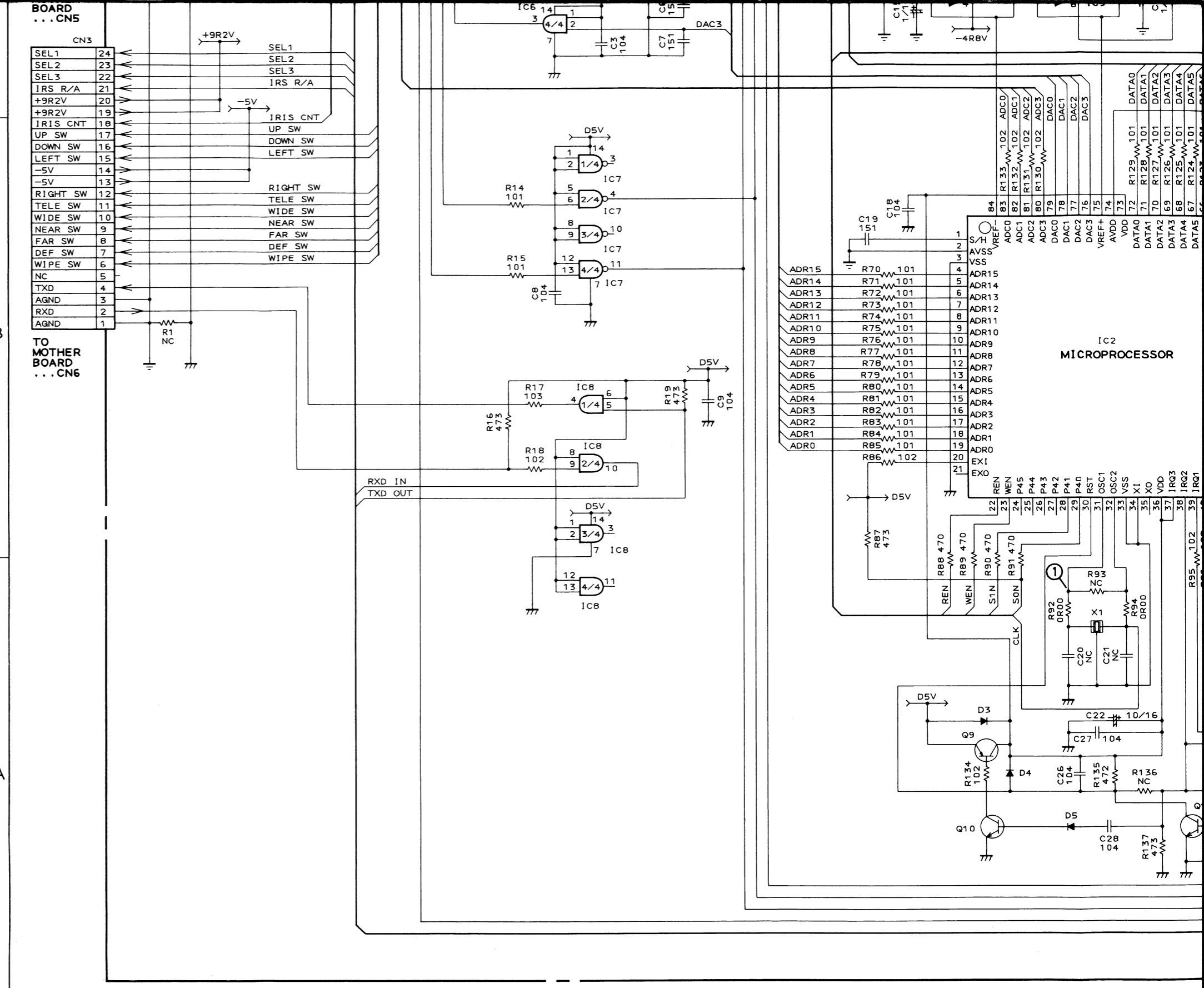
For Resistor:

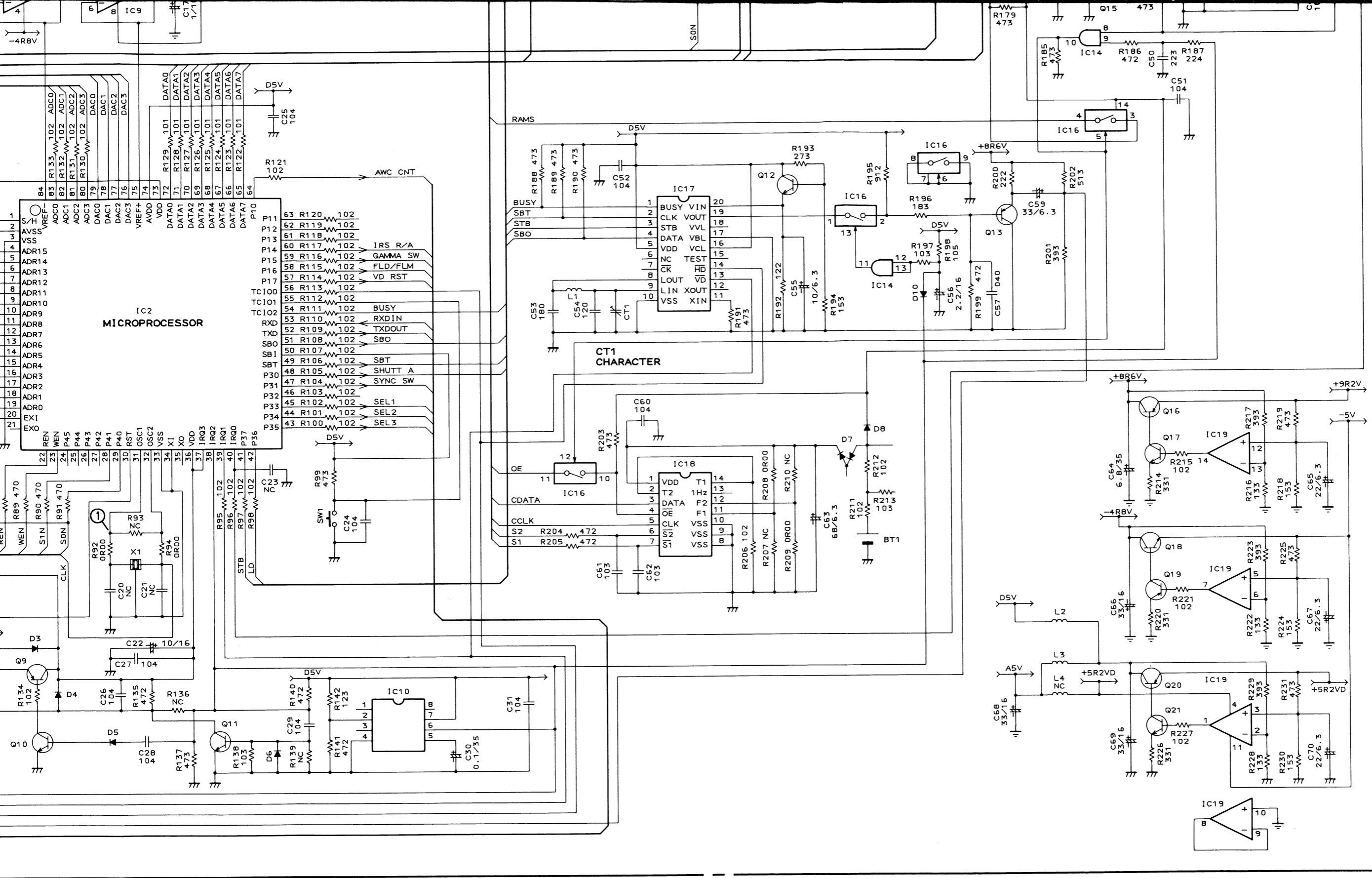
$$\begin{aligned} 330 &\rightarrow 33 \times 10^0 = 33 \Omega \\ 561 &\rightarrow 56 \times 10^1 = 560 \Omega \\ 123 &\rightarrow 12 \times 10^3 = 12k \Omega \\ 0R00 &= 0 \Omega \end{aligned}$$

For Capacitor:

$$\begin{aligned} 820 &\rightarrow 82 \times 10^0 = 82 \text{ pF} \\ 102 &\rightarrow 10 \times 10^2 = 1000 \text{ pF} = 0.001 \mu\text{F} \\ 104 &\rightarrow 10 \times 10^4 = 100000 \text{ pF} = 0.1 \mu\text{F} \end{aligned}$$

The suffix attached to capacitance indicates a type of capacitor.



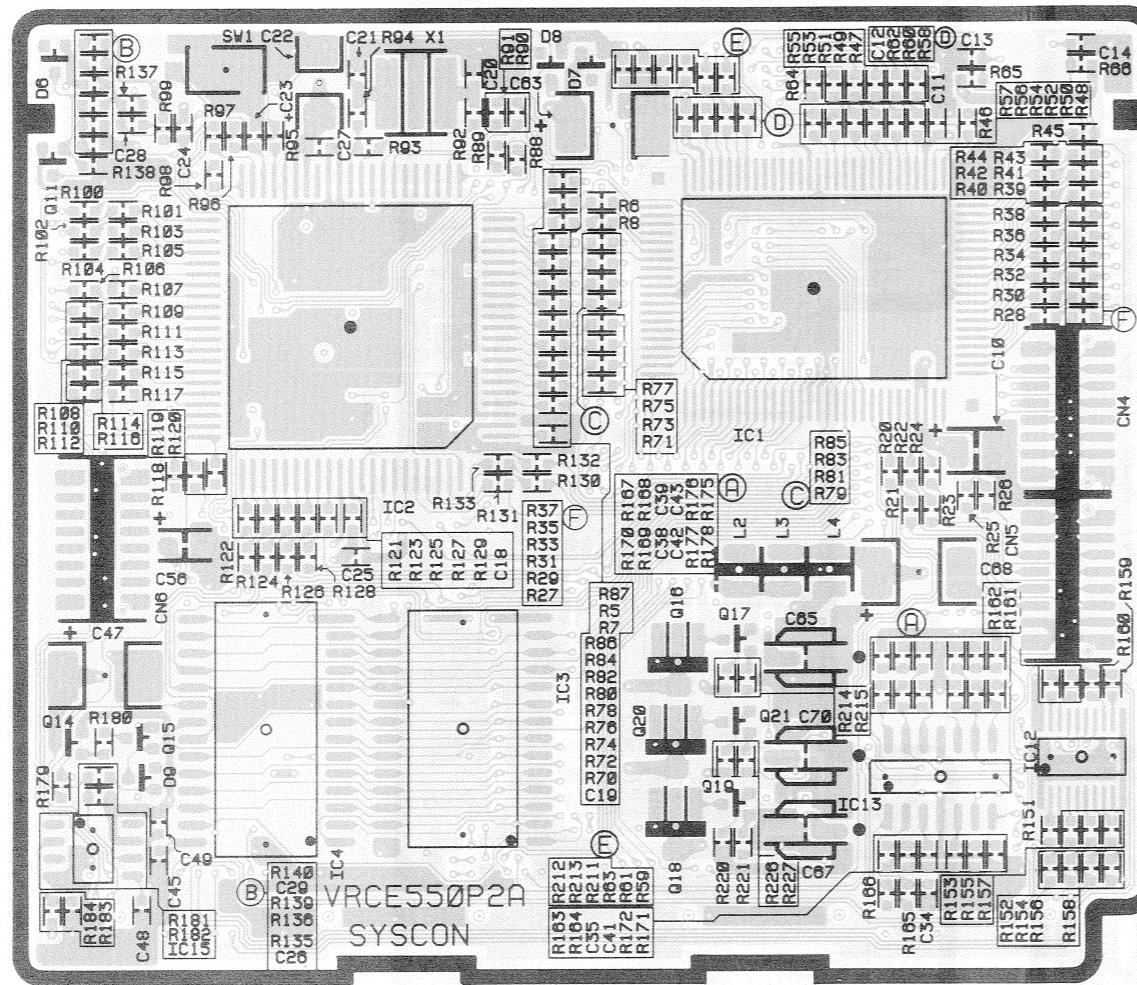


CONDUCTOR VIEW OF SYSTEM CONTROL BOARD (WV-E550E)

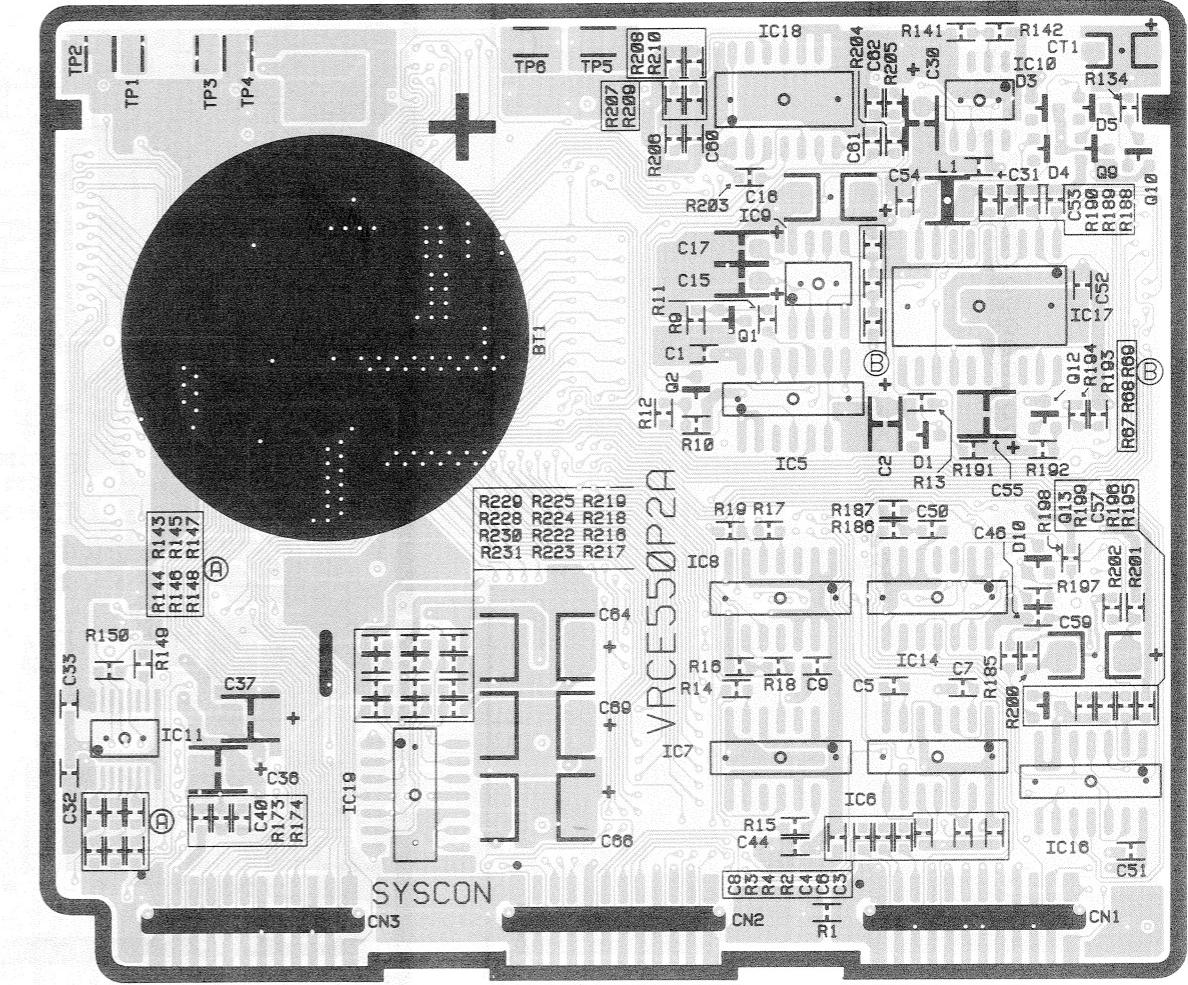
^ Index > SYSTEM CONTROL BOARD

IC1 B2
 IC2 B2
 IC3 B2
 IC4 A1
 IC5 B5
 IC6 B6
 IC7 B5
 IC8 B5
 IC9 C5
 IC10 C6
 IC11 A3
 IC12 A3
 IC13 A3
 IC14 B6
 IC15 A1
 IC16 B6
 IC17 C5
 IC18 C5
 IC19 A4
 Q1 B5
 Q2 B5
 Q3 C6
 Q4 C6
 Q5 C1
 Q6 B6
 Q7 B6
 Q8 B6
 Q9 B6
 Q10 C1
 Q11 B6
 Q12 B6
 Q13 B6
 Q14 A1
 Q15 A1
 Q16 B2
 Q17 B2
 Q18 A2
 Q19 A2
 Q20 A2
 D1 B6
 D3 C6
 D4 C6
 D5 C6
 D6 C1
 D7 C2
 D8 C2
 D9 A1
 D10 B6

SYSTEM CONTROL BOARD

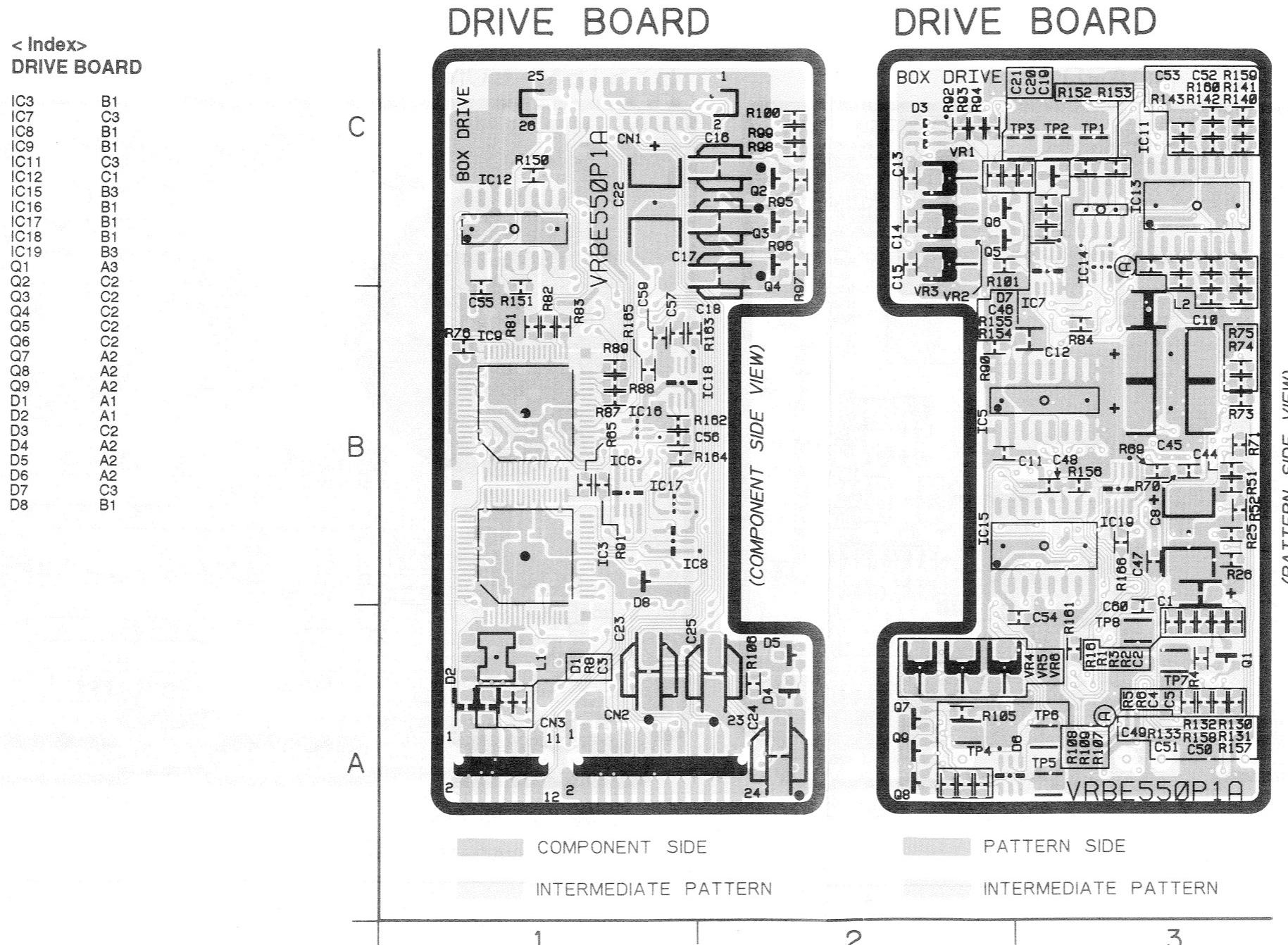


SYSTEM CONTROL BOARD



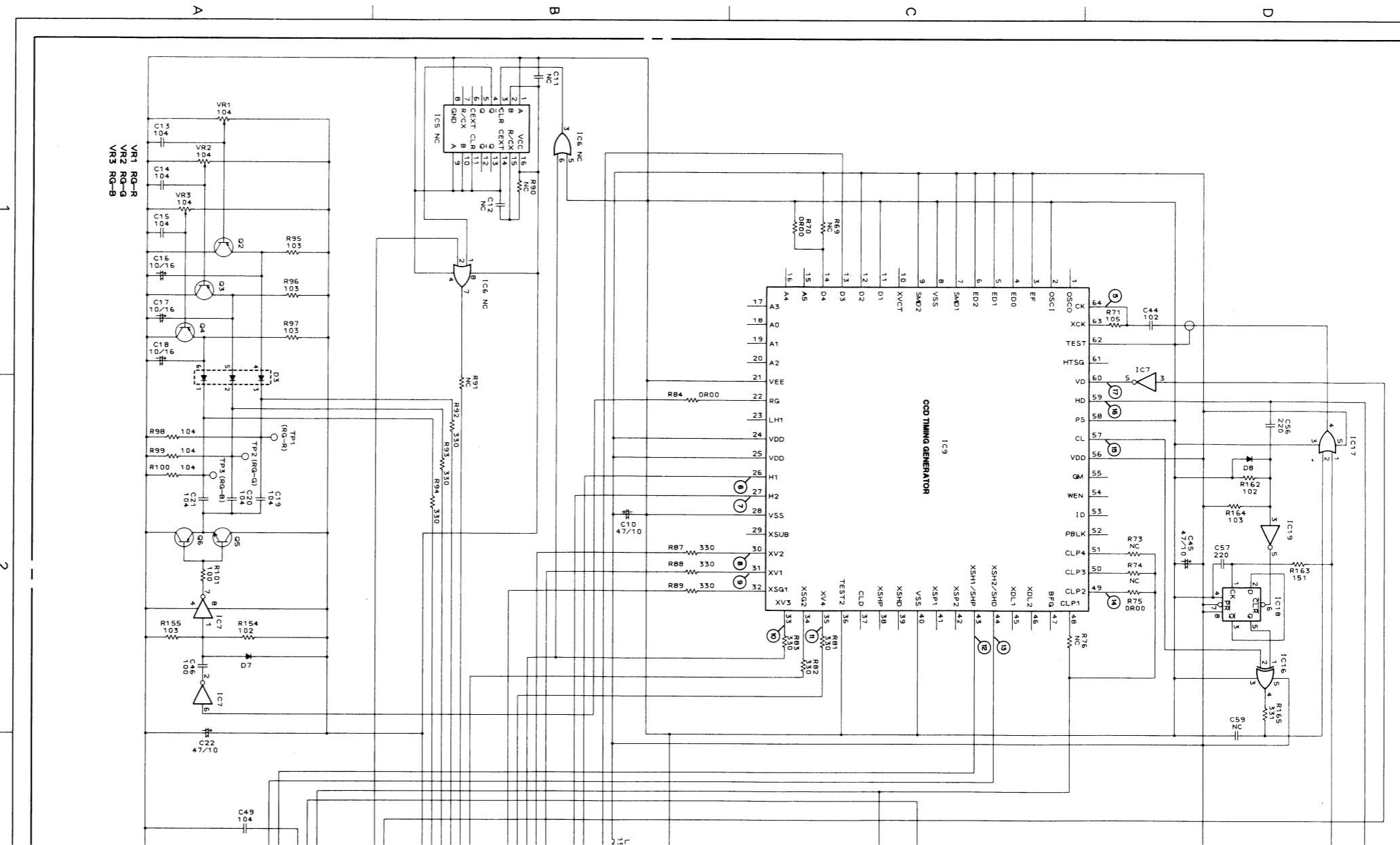
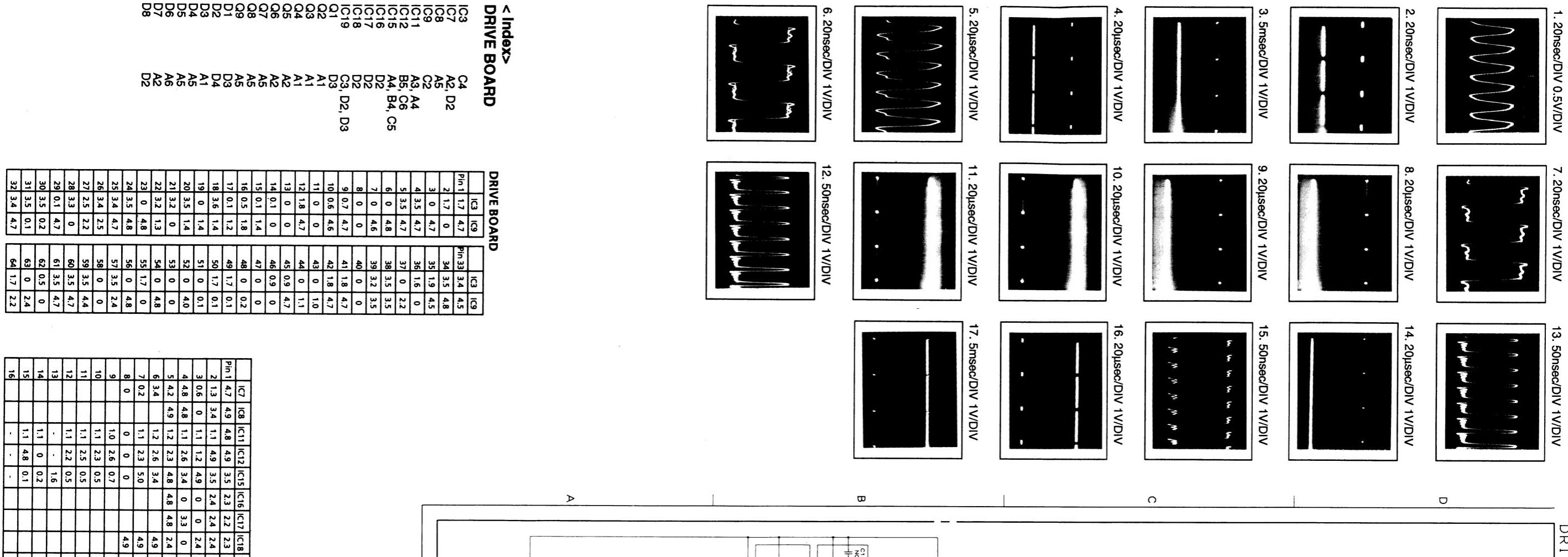
WV-E550E	WV-E550E
WV-PS550	WV-PS550

CONDUCTOR VIEW OF DRIVE BOARD (WV-E550E)

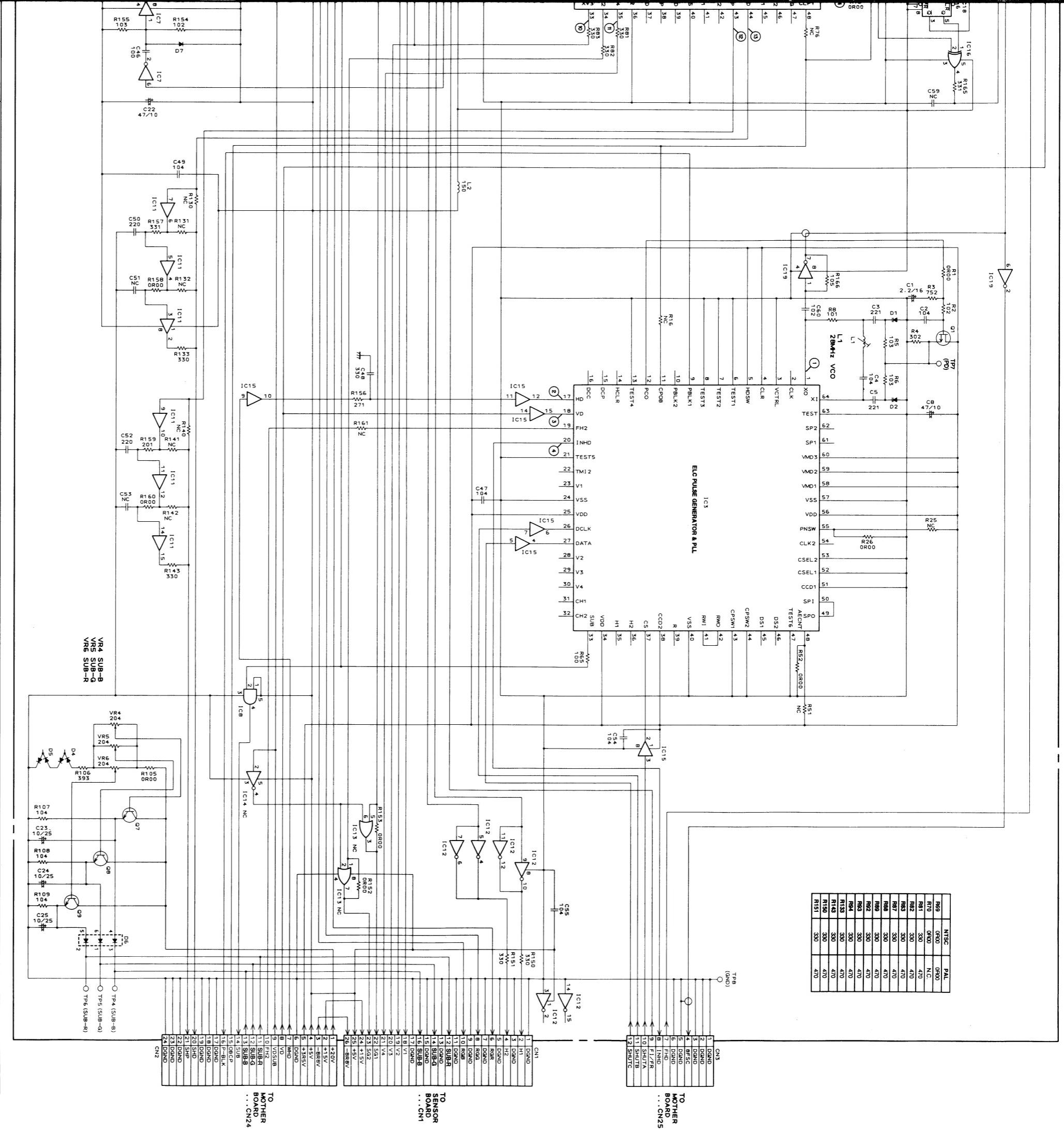


SCHEMATIC DIAGRAM OF DRIVE BOARD

DRIVE BOARD



SCHEMATIC DIAGRAM OF DRIVE BOARD (WV-E550E)



Note: The value indicated in the schematic diagram should be read as follows:

□ □ □ □ □ Multiplier (0 - 5)
 _____ 2nd. Significant Digit (0 - 9)
 _____ 1st. Significant Digit (1 - 9)

<Example>

For Resistor:
 $330 \rightarrow 33 \times 10^0 = 33\Omega$
 $561 \rightarrow 56 \times 10^1 = 560\Omega$
 $123 \rightarrow 12 \times 10^3 = 12k\Omega$
 $0R00 = 0\Omega$

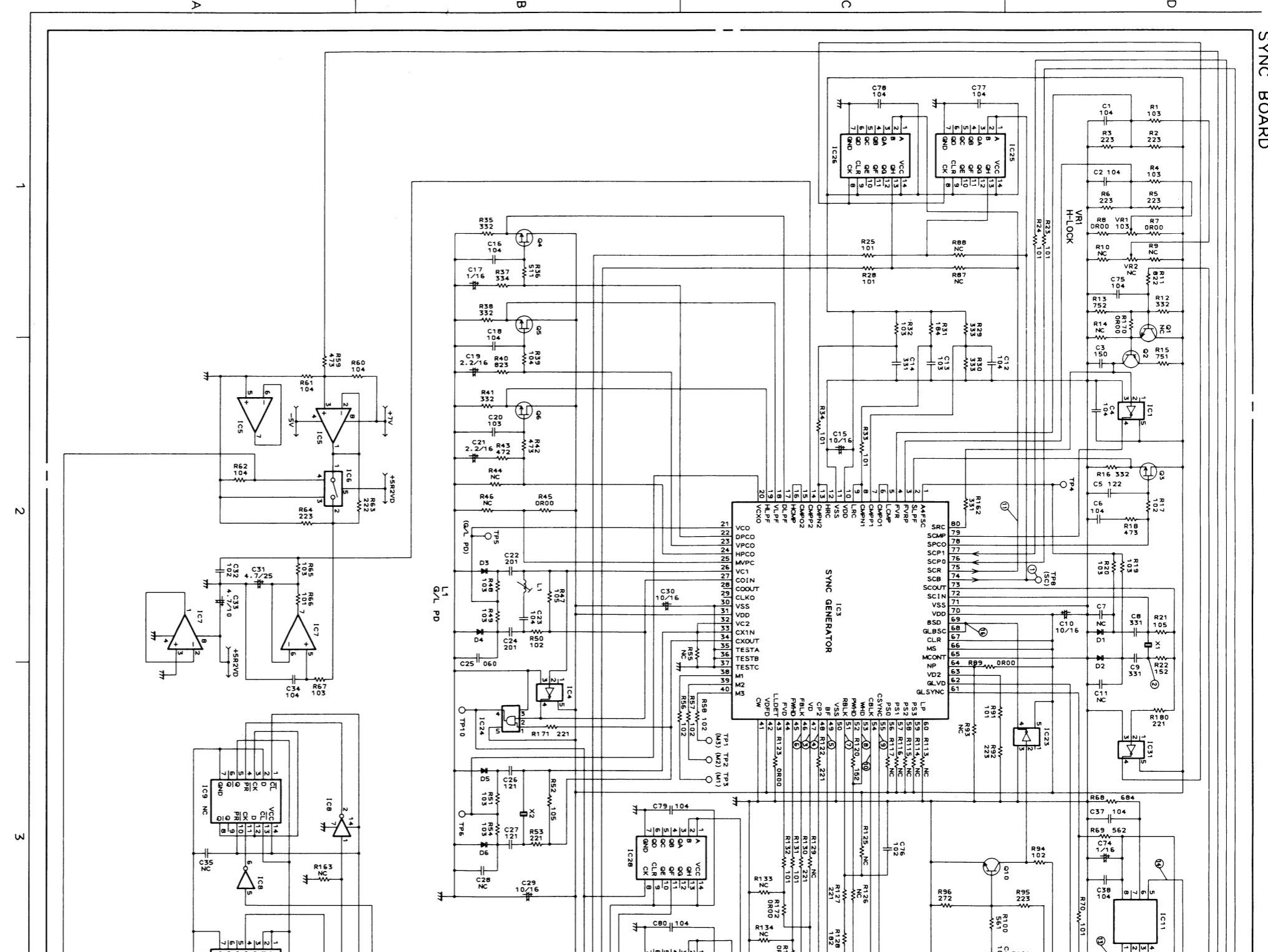
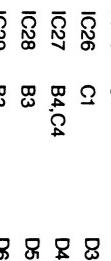
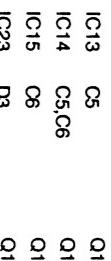
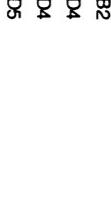
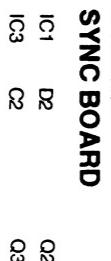
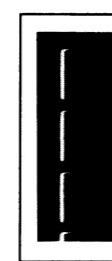
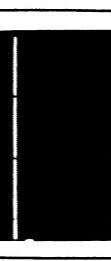
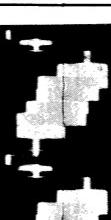
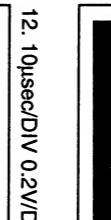
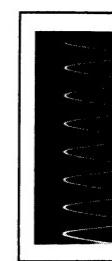
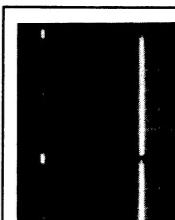
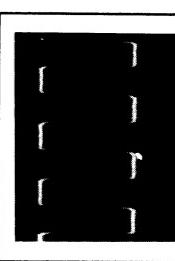
For Capacitor:
 $820 \rightarrow 82 \times 10^0 = 82\text{ pF}$
 $102 \rightarrow 10 \times 10^2 = 1000\text{ pF} = 0.001\mu\text{F}$
 $104 \rightarrow 10 \times 10^4 = 100000\text{ pF} = 0.1\mu\text{F}$
 The suffix attached to capacitance indicates a type of capacitor.

SCHEMATIC DIAGRAM OF SYNC E

SYNC BOARD

1. 0.1μsec/DIV 1V/DIV

9. 10μsec/DIV 1V/DIV



<Index> SYNC BOARD

SYNC BOARD

	IC1	D2	Q2	D2	IC3	C2	Q3	D2	IC4	C5	IC13
Pin 1	-	1.3	3.1	2.7	IC3				IC2		
2.0	0	3.1	2.7	2.0	2.5	42	5.0	2.2	2.1	61	0.2
3.0	0	3.1	0	3.2	2.5	43	0	2.3	2.0	62	0.4
4.0	5.0	-5.2	6.3	4.5	4.0	44	0.2	2.4	2.8	63	0.5
5.0	5.0	0	6.7	5.0	4.5	48	0.8	2.5	5.0	64	0.5
6.0	0			6.0	5.0	49	0.2	2.6	5.5	65	0.5
7.0				7.0	7.0	50	0	6.0	5.0	66	0.5
8.0				8.0	7.0	51	0	6.5	5.0	67	0.5
9.0				9.0	7.0	52	0	7.0	6.0	68	0.5
10.0				10.0	5.0	53	0	7.5	6.5	69	0.5
11.0				11.0	5.0	54	0	8.0	7.0	70	0.5
12.0				12.0	5.0	55	0	8.5	7.5	71	0.5
13.0				13.0	2.0	56	0	9.0	8.0	72	0.5
14.0				14.0	2.0	57	0	9.5	8.5	73	0.5
15.0				15.0	2.0	58	0	10.0	9.0	74	0.5
16.0				16.0	0.1	59	0	10.5	9.5	75	0.5

	IC1	D2	Q2	D2	IC3	C2	Q3	D2	IC4	C5	IC13
B1	-	1.3	3.1	2.7	IC4	C3	Q4	D2	IC5	C5	IC14
B2	0	3.1	2.7	2.0	2.0	42	5.0	2.2	2.1	61	0.2
B3	0	3.1	0	3.0	2.5	43	0	2.3	2.0	62	0.4
B4	5.0	-5.2	6.3	4.0	4.5	44	0.2	2.4	2.8	63	0.5
B5	5.0	0	6.7	5.0	4.5	48	0.8	2.5	5.0	64	0.5
B6	0			6.0	5.0	49	0.2	2.6	5.5	65	0.5
B7				7.0	7.0	50	0	6.0	5.0	66	0.5
B8				8.0	7.0	51	0	6.5	5.0	67	0.5
B9				9.0	7.0	52	0	7.0	6.0	68	0.5
B10				10.0	5.0	53	0	7.5	6.5	69	0.5
B11				11.0	5.0	54	0	8.0	7.0	70	0.5
B12				12.0	5.0	55	0	8.5	7.5	71	0.5
B13				13.0	2.0	56	0	9.0	8.0	72	0.5
B14				14.0	2.0	57	0	9.5	8.5	73	0.5
B15				15.0	2.0	58	0	10.0	9.0	74	0.5
B16				16.0	0.1	59	0	10.5	9.5	75	0.5

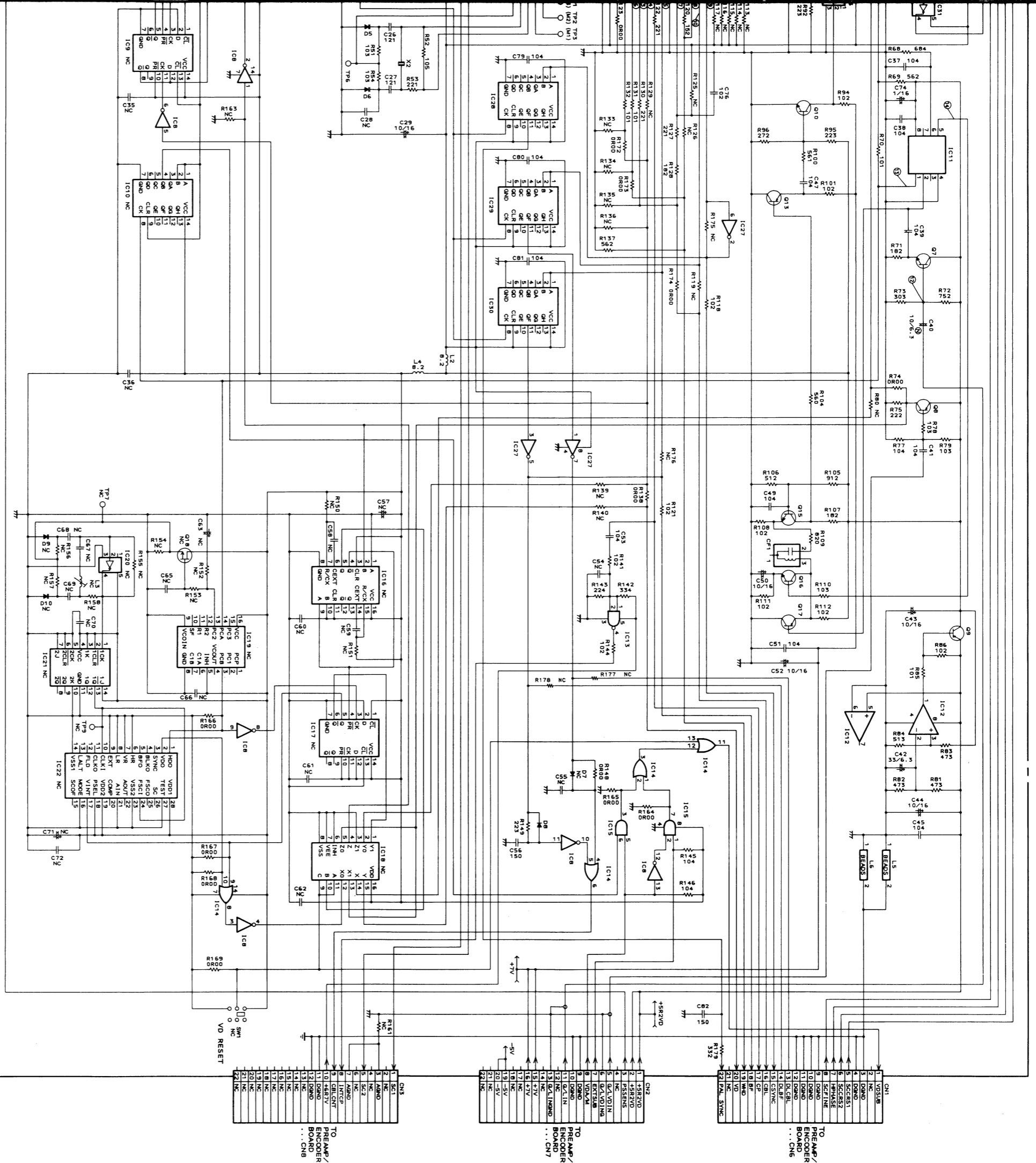
	IC1	D2	Q2	D2	IC3	C2	Q3	D2	IC4	C5	IC13
C1	-	1.3	3.1	2.7	IC4	C3	Q4	D2	IC5	C5	IC14
C2	0	3.1	2.7	2.0	2.0	42	5.0	2.2	2.1	61	0.2
C3	0	3.1	0	3.0	2.5	43	0	2.3	2.0	62	0.4
C4	5.0	-5.2	6.3	4.0	4.5	44	0.2	2.4	2.8	63	0.5
C5	5.0	0	6.7	5.0	4.5	48	0.8	2.5	5.0	64	0.5
C6	0			6.0	5.0	49	0.2	2.6	5.5	65	0.5
C7				7.0	7.0	50	0	6.0	5.0	66	0.5
C8				8.0	7.0	51	0	6.5	5.0	67	0.5
C9				9.0	7.0	52	0	7.0	6.0	68	0.5
C10				10.0	5.0	53	0	7.5	6.5	69	0.5
C11				11.0	5.0	54	0	8.0	7.0	70	0.5
C12				12.0	5.0	55	0	8.5	7.5	71	0.5
C13				13.0	2.0	56	0	9.0	8.0	72	0.5
C14				14.0	2.0	57	0	9.5	8.5	73	0.5
C15				15.0	2.0	58	0	10.0	9.0	74	0.5
C16				16.0	0.1	59	0	10.5	9.5	75	0.5

	IC1	D2	Q2	D2	IC3	C2	Q3	D2	IC4	C5	IC13

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M OF SYNC BOARD (WV-E550E)

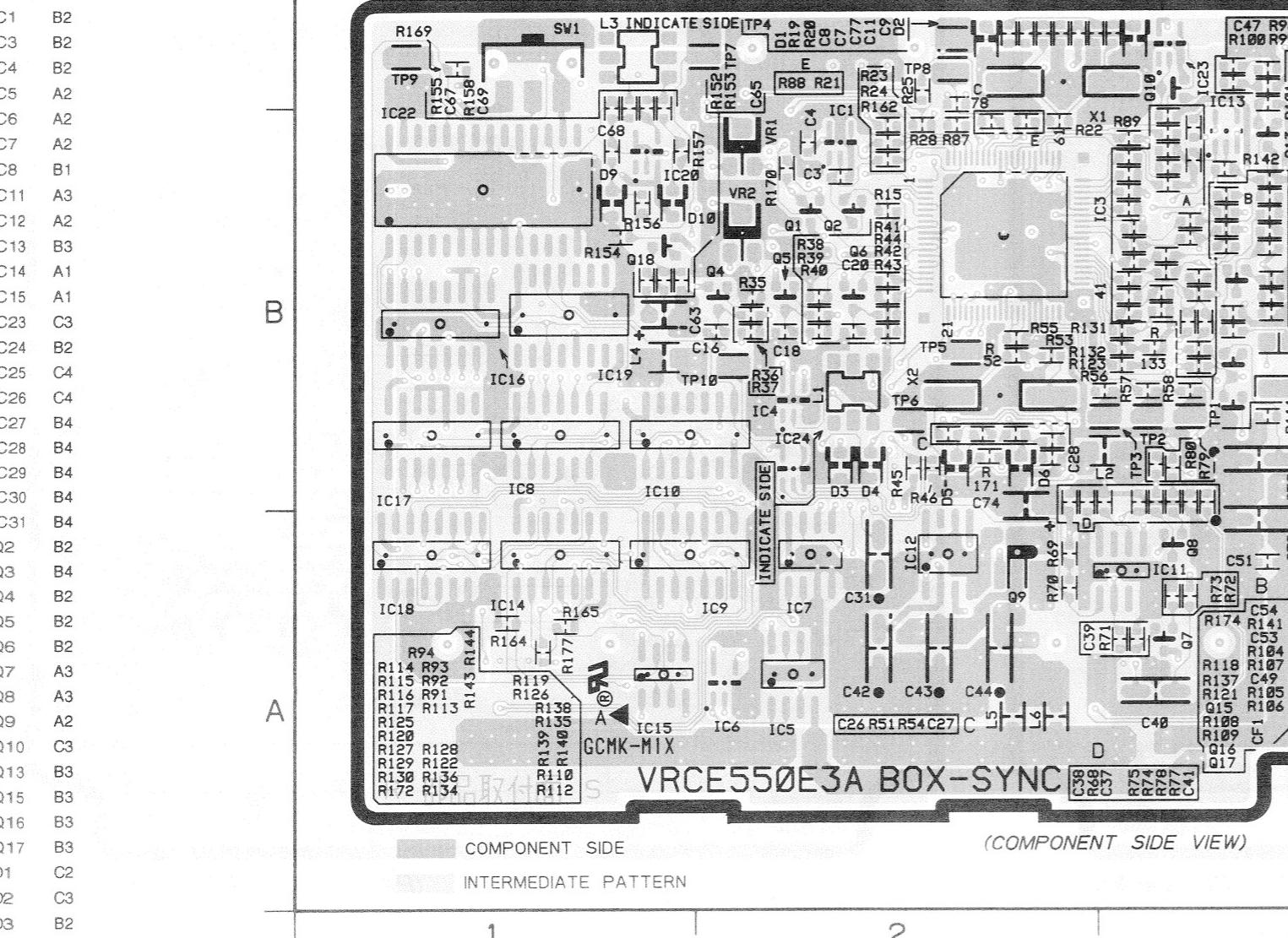
	B	C	E
4	0	-	1.1
5	0	0	0
6	0	5.7	5.0
7	0	0	0
8	0	4.0	0
9	0	2.0	5.0
10	0	4.0	0
11	0	0	0
12	0	0	0
13	0	1.9	2.1
14	0	1.7	3.2
15	0	2.8	2.2
16	0	2.8	2.2
17	1.5	0	2.2
18	3.3	0.4	3.9
19	3	(G) 0.8	(D) 5.0
20	5	(G) 0	(D) 5.0
21	6	(G) 4.9	(D) 4.9
22	7	3.9	5.0
23	8	4.5	0.4
24	9	4.5	5.0
25	10	0.6	5.8
26	13	1.9	2.1
27	15	1.7	3.2
28	16	2.8	2.2
29	17	1.5	0
30	18	3.3	0.4
31	19	3	(S) 0.5
32	20	5	(G) 0.4
33	21	6	(G) 4.9
34	22	7	(S) 4.8
35	23	8	3.3
36	24	9	5.0
37	25	10	0.4
38	26	13	2.1
39	27	15	3.2
40	28	16	2.2
41	29	17	0
42	30	18	3.3
43	31	19	3
44	32	20	(D) 5.0
45	33	21	5
46	34	22	6
47	35	23	(G) 4.9
48	36	24	(S) 4.8
49	37	25	7
50	38	26	8
51	39	27	9
52	40	28	10
53	41	29	13
54	42	30	15
55	43	31	16
56	44	32	17
57	45	33	18
58	46	34	19
59	47	35	20
60	48	36	21
61	49	37	22
62	50	38	23
63	51	39	24
64	52	40	25
65	53	41	26
66	54	42	27
67	55	43	28
68	56	44	29
69	57	45	30
70	58	46	31
71	59	47	32
72	60	48	33
73	61	49	34
74	62	50	35
75	63	51	36
76	64	52	37
77	65	53	38
78	66	54	39
79	67	55	40
80	68	56	41
81	69	57	42
82	70	58	43
83	71	59	44
84	72	60	45
85	73	61	46
86	74	62	47
87	75	63	48
88	76	64	49
89	77	65	50
90	78	66	51
91	79	67	52
92	80	68	53
93	81	69	54
94	82	70	55
95	83	71	56
96	84	72	57
97	85	73	58
98	86	74	59
99	87	75	60
100	88	76	61
101	89	77	62
102	90	78	63
103	91	79	64
104	92	80	65
105	93	81	66
106	94	82	67
107	95	83	68
108	96	84	69
109	97	85	70
110	98	86	71
111	99	87	72
112	100	88	73
113	101	89	74
114	102	90	75
115	103	91	76
116	104	92	77
117	105	93	78
118	106	94	79
119	107	95	80
120	108	96	81
121	109	97	82
122	110	98	83
123	111	99	84
124	112	100	85
125	113	101	86
126	114	102	87
127	115	103	88
128	116	104	89
129	117	105	90
130	118	106	91
131	119	107	92
132	120	108	93
133	121	109	94
134	122	110	95
135	123	111	96
136	124	112	97
137	125	113	98
138	126	114	99
139	127	115	100
140	128	116	101
141	129	117	102
142	130	118	103
143	131	119	104
144	132	120	105
145	133	121	106
146	134	122	107
147	135	123	108
148	136	124	109
149	137	125	110
150	138	126	111



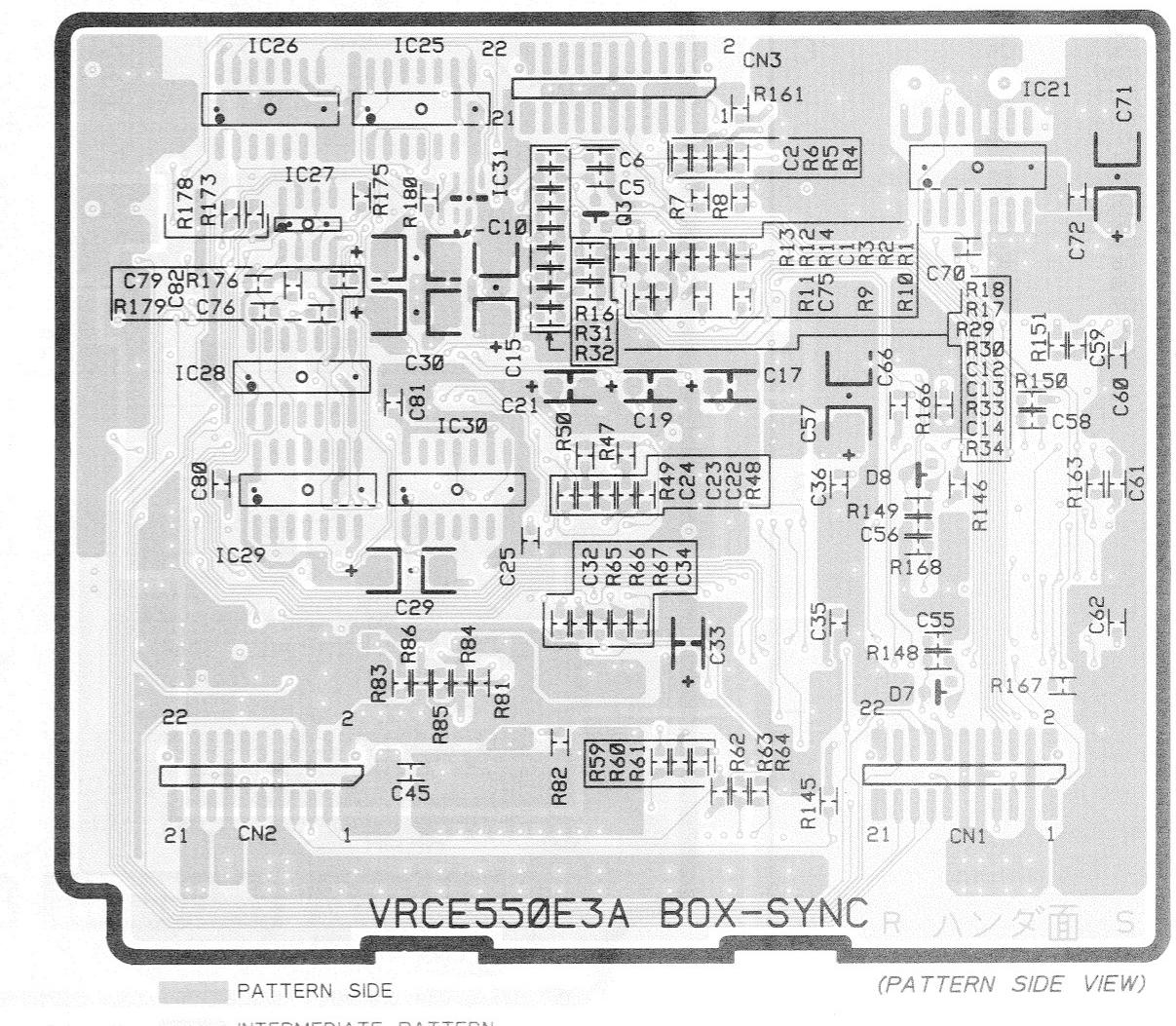
CONDUCTOR VIEW OF SYNC BOARD (WV-E550E)

< Index>
SYNC BOARD

SYNC BOARD



SYNC BOARD



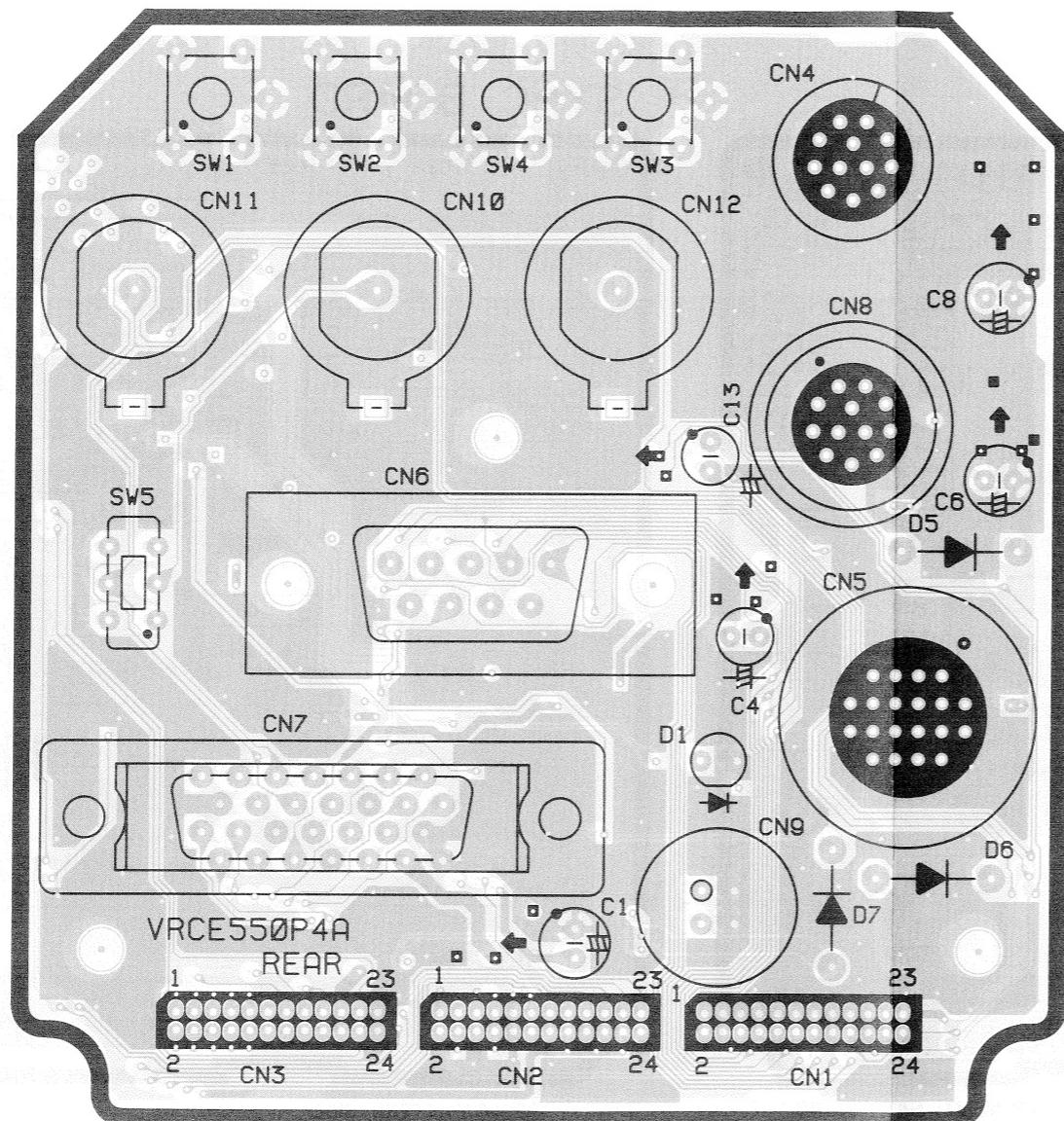
WV-E550E	WV-E550E
WV-PS550	WV-PS550

CONDUCTOR VIEW OF REAR BOARD (WV-E550E)

<Index>
REAR BOARD

IC1 B5
IC2 A4
IC5 B4
IC6 B5
IC7 B5
IC8 B5
IC9 C5
IC10 C5
IC11 C5
IC12 C5
IC13 C5
Q1 B4
D1 B2
D2 B5
D3 B4
D4 C4
D5 B3
D6 A3
D7 A3
D8 B3
D9 B3

REAR BOARD

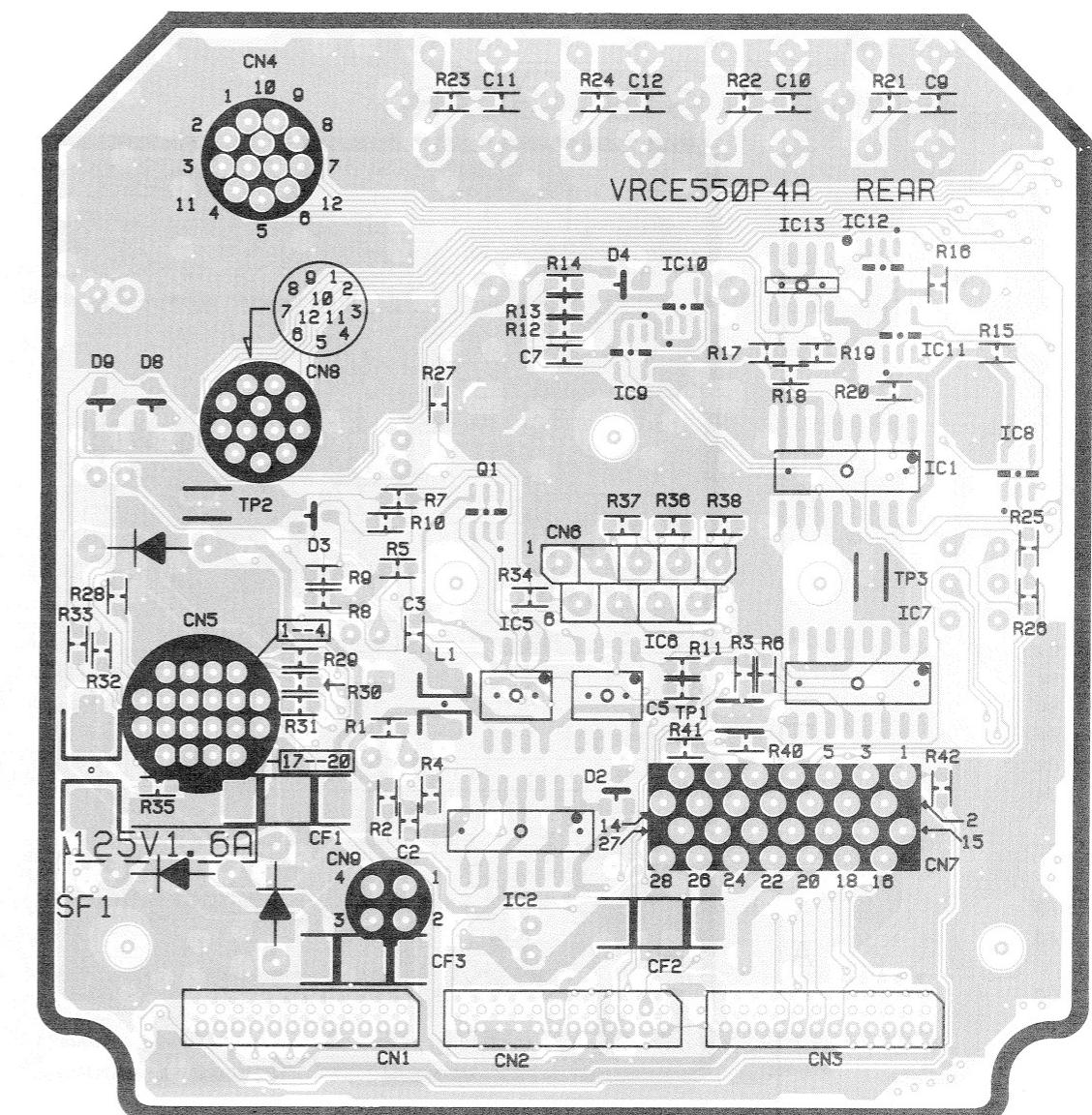


(COMPONENT SIDE VIEW)

COMPONENT SIDE

INTERMEDIATE PATTERN

REAR BOARD



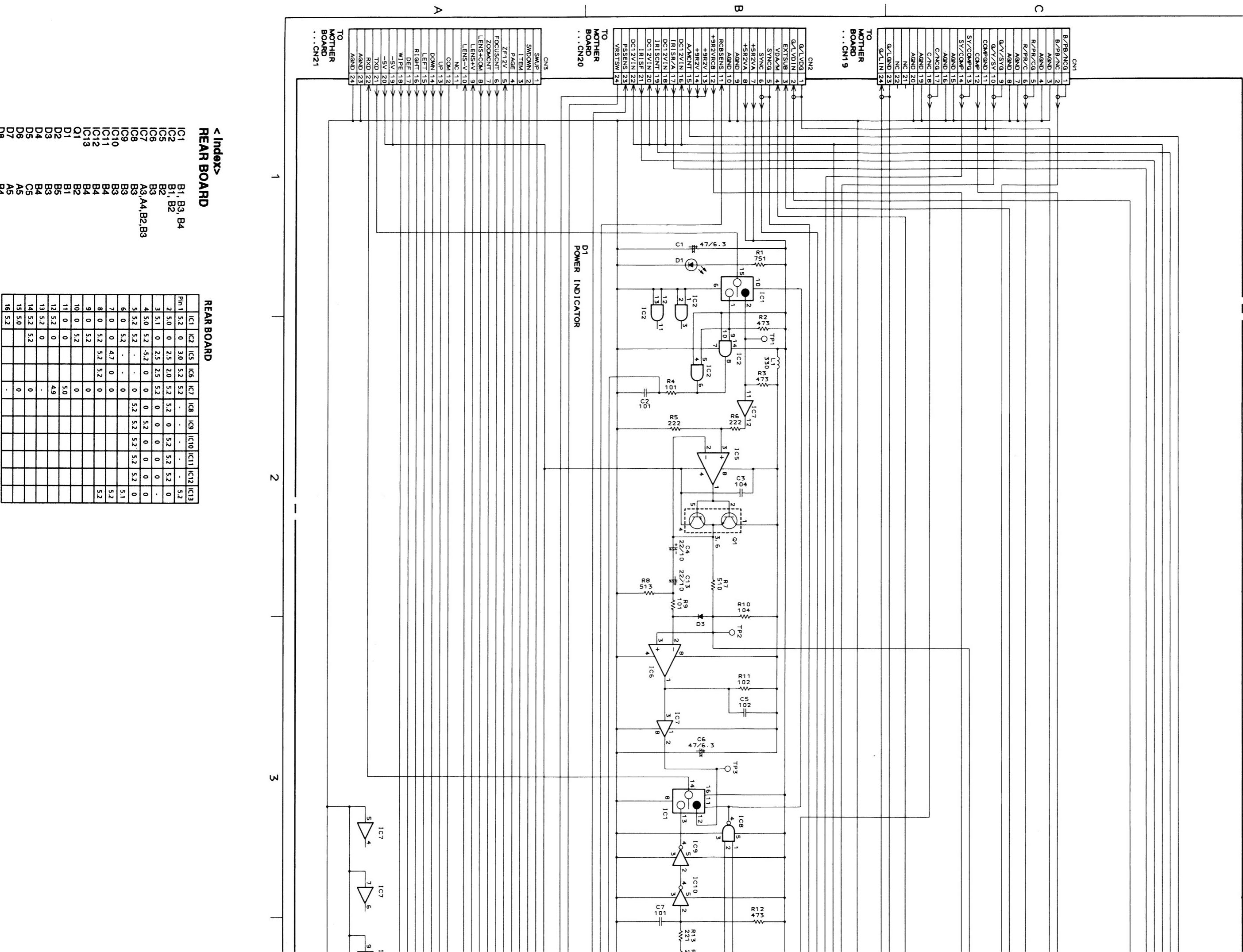
(PATTERN SIDE VIEW)

PATTERN SIDE

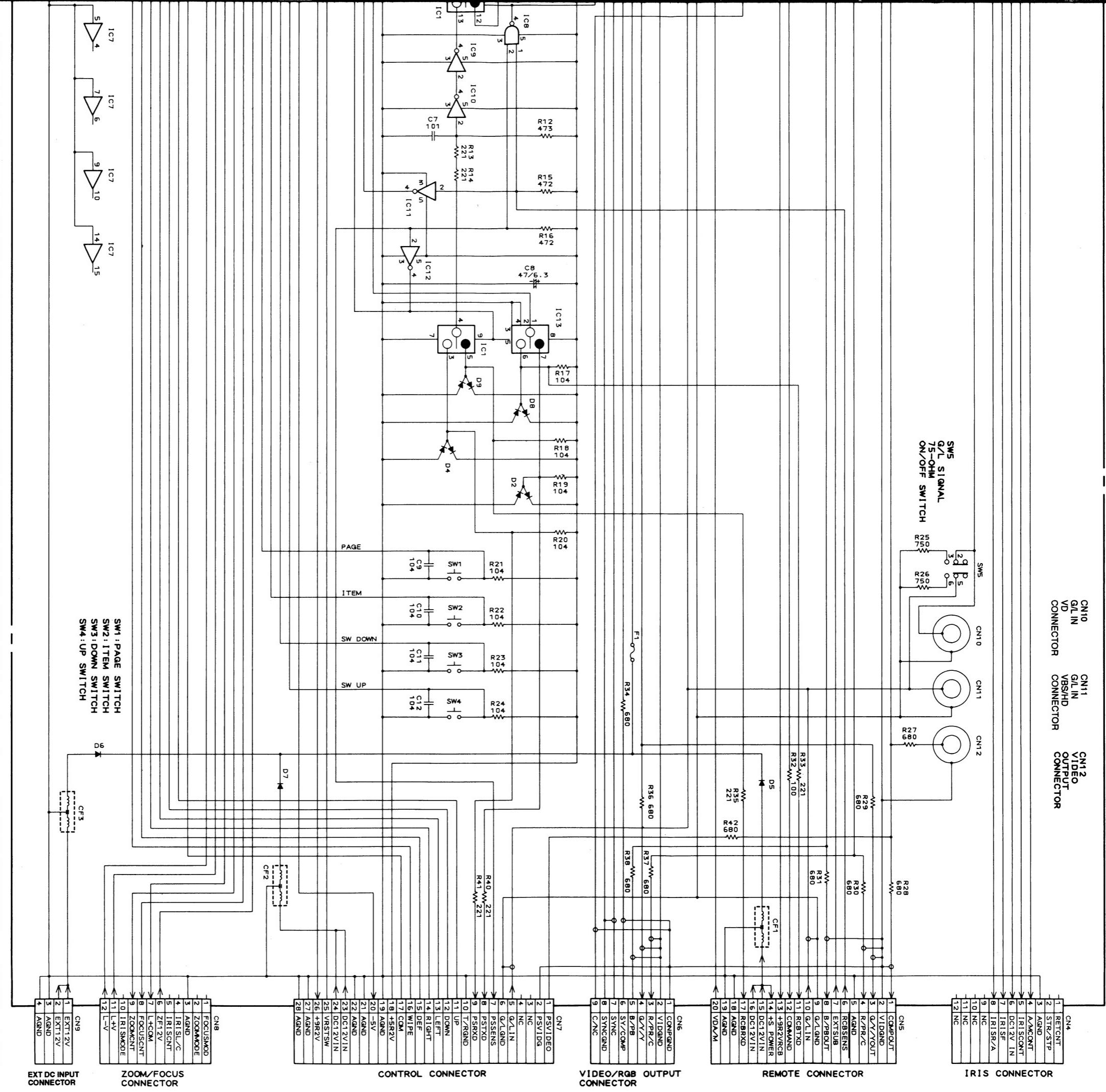
INTERMEDIATE PATTERN

SCHEMATIC DIAGRAM OF REAR

REAR BOARD



M OF REAR BOARD (WV-E550E)



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SCHEMATIC DIAGRAM OF POWER BOARD

<Index>
POWER BOARD

IC1	B2
IC2	B2
IC3	A4, B4
Q3	
Q4	
Q5	
Q6	B3
Q7	B3
Q8	C4
Q9	A2
Q10	A2
Q11	B3
Q12	B3
Q13	B3
Q14	B4
Q15	B4
Q16	B4
Q17	B4
Q18	B3
Q19	B3
Q20	B3
Q21	A3
Q22	A3
Q23	NC
Q24	NC
Q25	NC
Q26	DGND
Q27	DGND
Q28	DGND
Q29	AGND
Q30	AGND
Q31	AGND
Q32	CP
Q33	NC
Q34	NC
Q35	NC
Q36	NC
Q37	NC
Q38	NC
Q39	NC
D1	
D2	
D3	
D4	
D5	
D6	
D7	
D8	
D9	

A3

CN1	+21V	1
	+21V	2
	-9V	9
	-9V	10
	NC	11
	NC	12
	+5R2VD	13
	+5R2VD	14
	+5R2VD	15
	+5R2VD	16
	AGND	17
	AGND	18
	AGND	19
	AGND	20
	+5R2VA	21
	+5R2VA	22
	+5R2VA	23
	+5R2VA	24

TP3	(FREQ)	
R116	C48	
331	200	
R1	R2	
104	363	
C1	C2	
103	365	
R3	R4	
104	623	
C2	C1	
473	365	
R5	R6	
104	303	
C3	C4	
103	365	
R7	R8	
104	473	
C4	C5	
103	473	
R9	R10	
104	563	
C5	C6	
473	563	
R11	R12	
104	563	
C6	C7	
103	563	
R13	VR1	
VR1	103	
104	362	
C7	VR1	
104	362	
R30	R31	
103	103	
C13	102	
102	102	
1	VREF	
2	CT	
3	CTL	
4	RT	
5	CH1+IN	
6	CH3FB	
7	CH1-IN	
8	CH1DTC	
9	CH1OUT	
10	CH2FB	
11	CH2DTC	
12	CH2OUT	
13	CH2DTC	
14	R121	
15	R000	
16	CH3DTC	
17	CH1+IN	
18	CH3OUT	
19	CH1FB	
20	CH1OUT	
21	CH2-IN	
22	CH2FB	
23	CH2DTC	
24	CH2OUT	
25	CH2DTC	
26	CH2OUT	
27	CH2DTC	
28	CH2OUT	
29	CH2DTC	
30	CH2OUT	
31	CH2DTC	
32	CH2OUT	
33	CH2DTC	
34	CH2OUT	
35	CH2DTC	
36	CH2OUT	
37	CH2DTC	
38	CH2OUT	
39	CH2DTC	
40	CH2OUT	
41	CH2DTC	
42	CH2OUT	
43	CH2DTC	
44	CH2OUT	

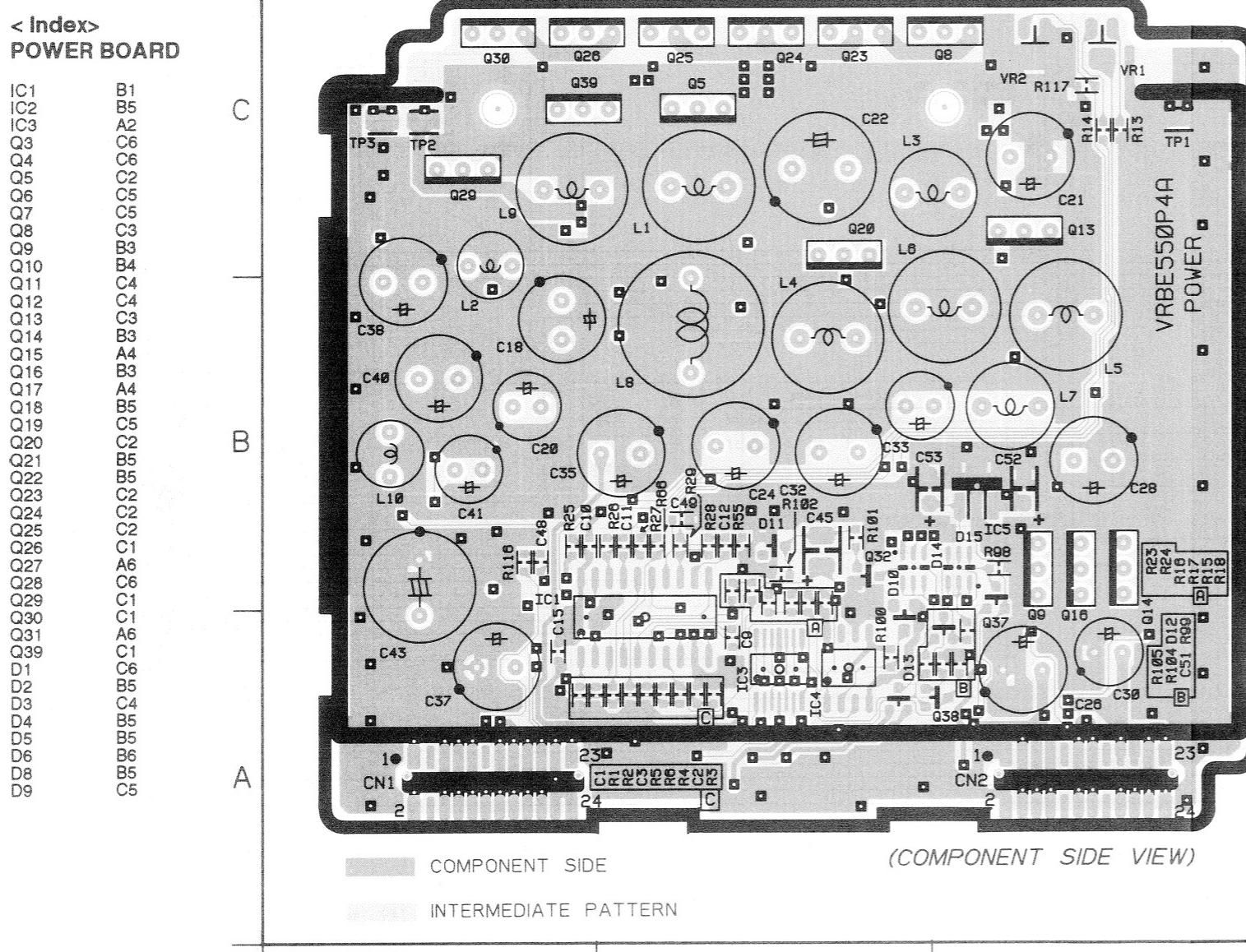
TP1	(+5.2V)	
TP2	(+5.2V)	
TP3	(FREQ)	
R116	C48	
331	200	
R1	R2	
104	363	
C1	C2	
103	365	
R3	R4	
104	623	
C2	C1	
473	365	
R5	R6	
104	303	
C3	C4	
103	365	
R7	R8	
104	473	
C4	C5	
103	473	
R9	R10	
104	563	
C5	C6	
473	563	
R11	R12	
104	563	
C6	C7	
103	563	
R13	VR1	
VR1	103	
104	362	
C7	VR1	
104	362	
R30	R31	
103	103	
C13	102	
102	102	
1	VREF	
2	CT	
3	CTL	
4	RT	
5	CH1+IN	
6	CH3FB	
7	CH1-IN	
8	CH1DTC	
9	CH1OUT	
10	CH2FB	
11	CH2DTC	
12	CH2OUT	
13	CH2DTC	
14	R121	
15	R000	
16	CH3DTC	
17	CH1+IN	
18	CH3OUT	
19	CH1FB	
20	CH1OUT	
21	CH2-IN	
22	CH2FB	
23	CH2DTC	
24	CH2OUT	
25	CH2DTC	
26	CH2OUT	
27	CH2DTC	
28	CH2OUT	
29	CH2DTC	
30	CH2OUT	
31	CH2DTC	
32	CH2OUT	
33	CH2DTC	
34	CH2OUT	
35	CH2DTC	
36	CH2OUT	
37	CH2DTC	
38	CH2OUT	
39	CH2DTC	
40	CH2OUT	
41	CH2DTC	
42	CH2OUT	
43	CH2DTC	
44	CH2OUT	

TP1	(+5.2V)	
TP2	(+5.2V)	
TP3	(FREQ)	
R116	C48	
331	200	
R1	R2	
104	363	
C1	C2	
103	365	
R3	R4	
104	623	
C2	C1	
473	365	
R5	R6	
104	303	
C3	C4	
103	365	
R7	R8	
104	473	
C4	C5	
103	473	
R9	R10	
104	563	
C5	C6	
473	563	
R11	R12	
104	563	
C6	C7	
103	563	
R13	VR1	
VR1	103	
104	362	
C7	VR1	
104	362	
R30	R31	
103	103	
C13	102	
102	102	
1	VREF	
2	CT	
3	CTL	
4	RT	
5	CH1+IN	
6	CH3FB	
7	CH1-IN	
8	CH1DTC	
9	CH1OUT	
10	CH2FB	
11	CH2DTC	
12	CH2OUT	
13	CH2DTC	
14	R121	
15	R000	
16	CH3DTC	
17	CH1+IN	
18	CH3OUT	
19	CH1FB	
20	CH1OUT	
21	CH2-IN	
22	CH2FB	
23	CH2DTC	
24	CH2OUT	
25	CH2DTC	
26	CH2OUT	
27	CH2DTC	
28	CH2OUT	
29	CH2DTC	
30	CH2OUT	
31	CH2DTC	
32	CH2OUT	
33	CH2DTC	
34	CH2OUT	
35	CH2DTC	
36	CH2OUT	
37	CH2DTC	
38	CH2OUT	
39	CH2DTC	
40	CH2OUT	
41	CH2DTC	
42	CH2OUT	
43	CH2DTC	
44	CH2OUT	

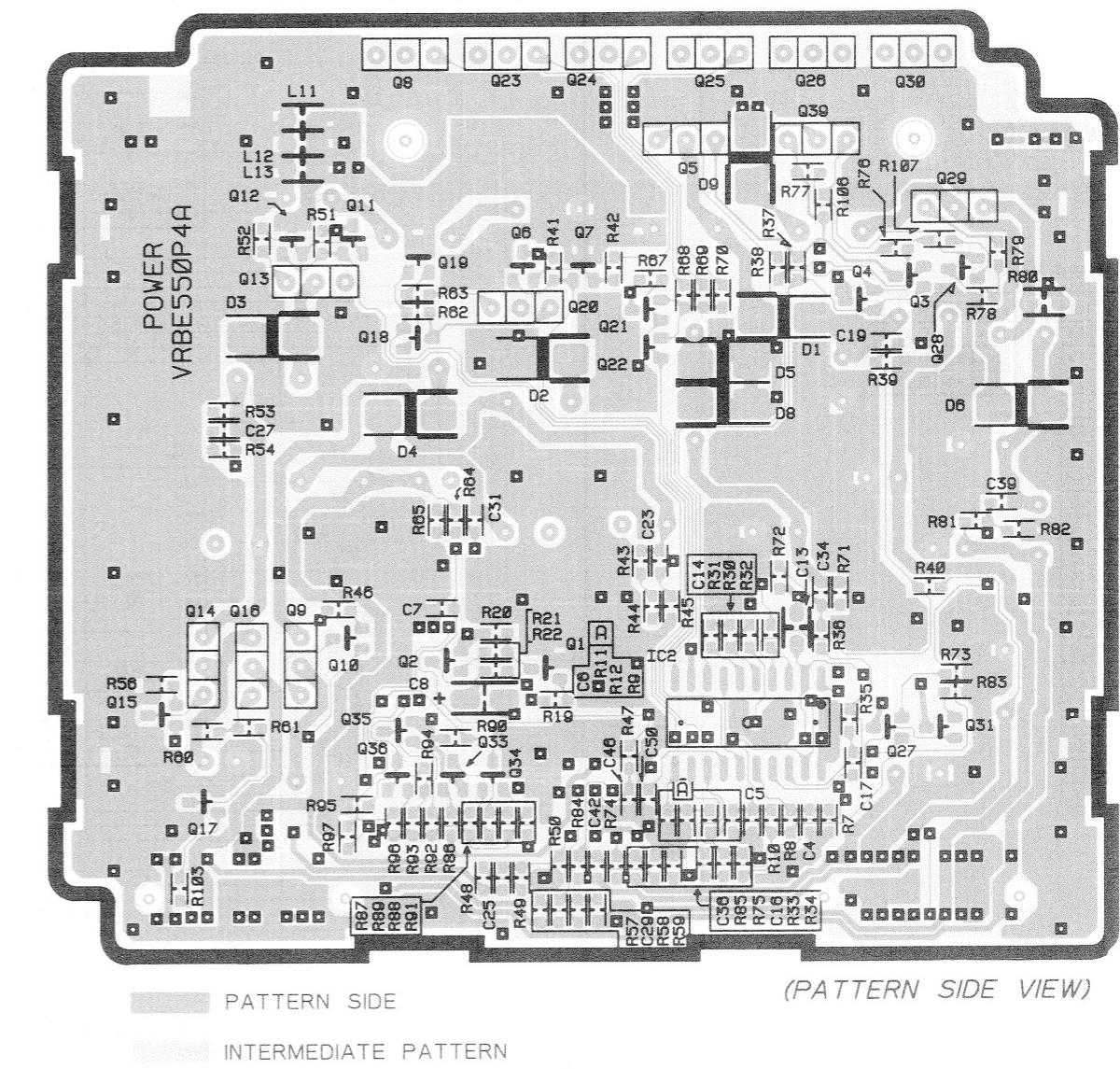
TP1	(+5.2V)	
TP2	(+5.2V)	
TP3	(FREQ)	
R116	C48	
331	200	
R1	R2	
104	363	
C1	C2	
103	365	
R3	R4	
104	623	
C2	C1	
473	365	
R5	R6	
104	303	
C3	C4	
103	365	
R7	R8	
104	473	
C4	C5	
103	473	
R9	R10	
104	563	
C5	C6	
473	563	
R11	R12	
104	563	
C6	C7	
103	563</	

CONDUCTOR VIEW OF POWER BOARD (WV-E550E)

POWER BOARD



POWER BOARD



SCHEMATIC DIAGRAM OF SENSOR BOARD (WV-E550E)

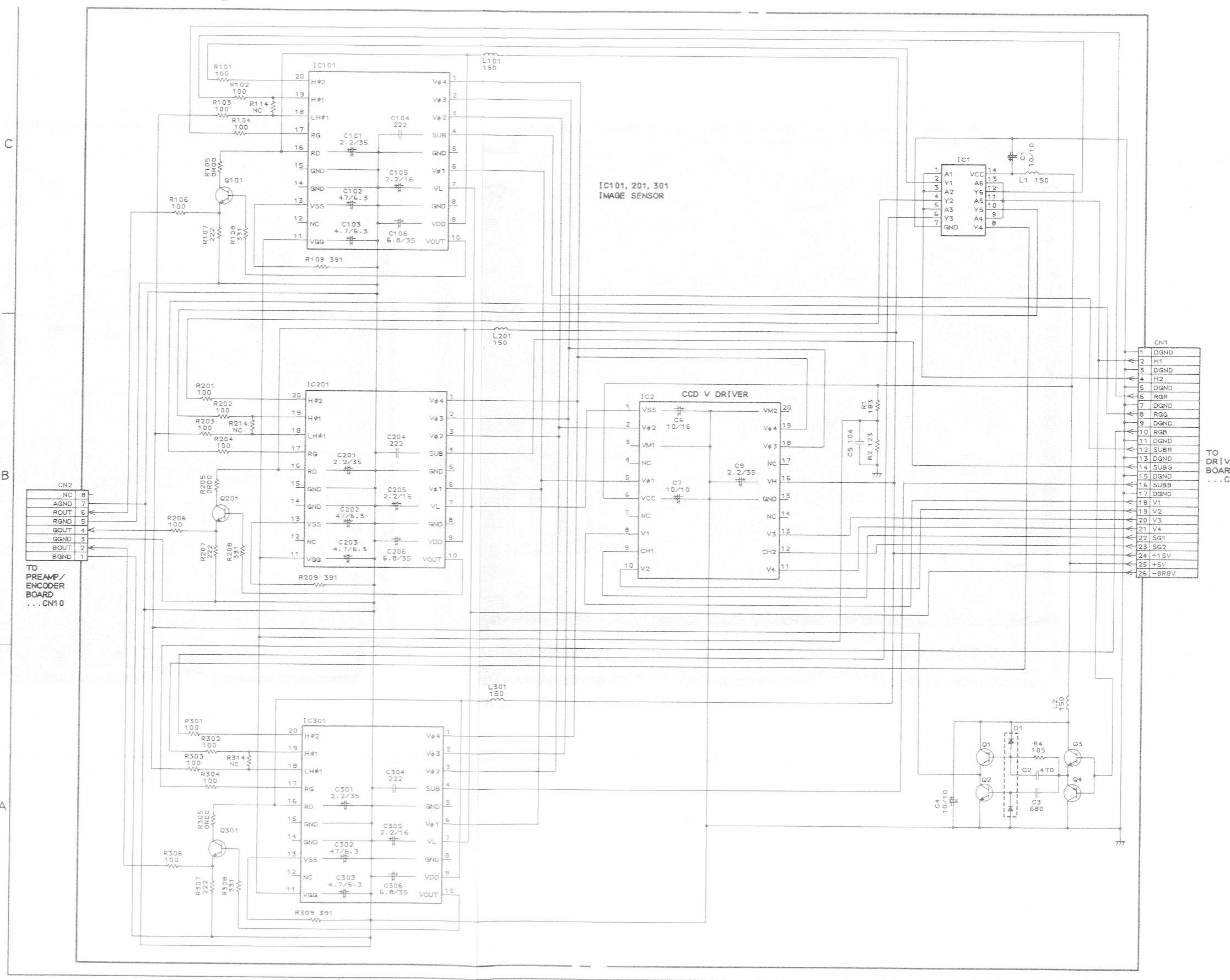
SENSOR BOARD

<Index> SENSOR BOARD

IC1	C3
IC2	B3
IC101	C1
IC201	B1
IC301	A1
Q1	A3
Q2	A3
Q3	A4
Q4	A4
Q101	C11
Q201	B1
Q301	A1
D1	A4

SENSOR BOARD

	IC2	B	C	E
Pin1	-8.7			
2	-0.3			
3	25.7			
4	27.0			
5	-0.3			
6	4.9			
7	24.0			
8	0.2			
9	4.9			
10	2.9			
11	4.6			
12	1.5			
13	4.6			
14	2.0			
15	0			
16	14.9			
17	2.2			
18	-8.3			
19	-8.3			
20	0			



Note: The value indicated in the schematic diagram should be read as follows:

□ □ □
Multiplier (0 - 5)
2nd. Significant Digit (0 - 9)
1st. Significant Digit (1 - 9)

<Example>

For Resistor:
 $330 \rightarrow 33 \times 10^0 = 33 \Omega$
 $561 \rightarrow 56 \times 10^1 = 560 \Omega$
 $123 \rightarrow 12 \times 10^3 = 12k \Omega$
 $R_{R00} = 0 \Omega$

For Capacitor:
 $820 \rightarrow 82 \times 10^0 = 82 \text{ pF}$
 $102 \rightarrow 10 \times 10^2 = 1000 \text{ pF} = 0.001 \mu\text{F}$
 $104 \rightarrow 10 \times 10^4 = 100000 \text{ pF} = 0.1 \mu\text{F}$

The suffix attached to capacitance indicates a type of capacitor.

Note:

All parts mounted on the Sensor Board are not supply individually.

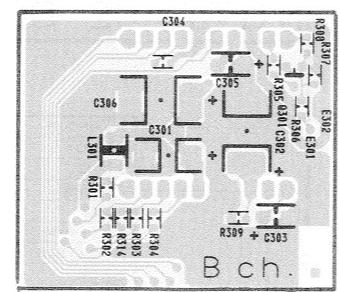
Please order as the Head Optical Assy, part number YWV0EA0282AN.

CONDUCTOR VIEW OF SENSOR BOARD (WV-E550E)

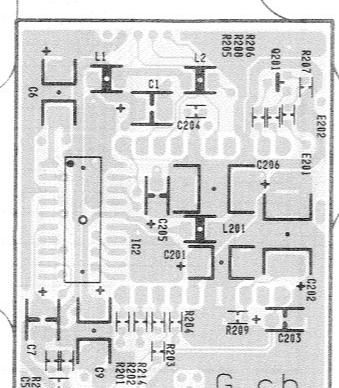
<Index>
SENSOR BOARD

IC1	B2
IC2	B1
IC101	A2
IC201	B2
IC301	C2
Q1	B2
Q2	B2
Q3	B2
Q4	B2
Q101	A1
Q201	B1
Q301	C1
D1	B2

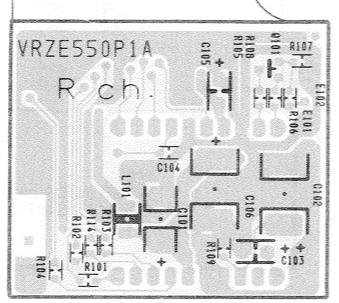
SENSOR BOARD



(COMPONENT SIDE VIEW)

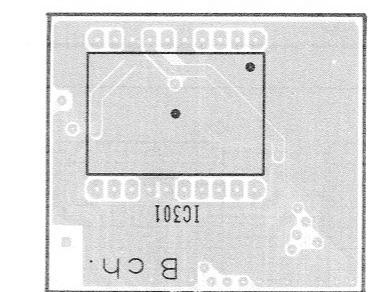


G ch.

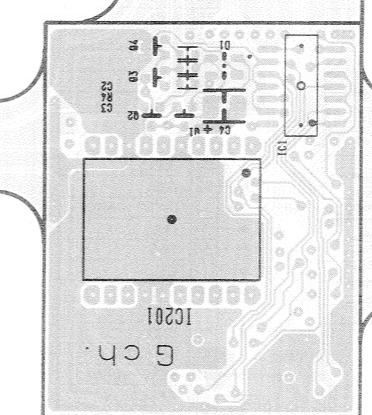


R ch.
COMPONENT SIDE
INTERMEDIATE PATTERN

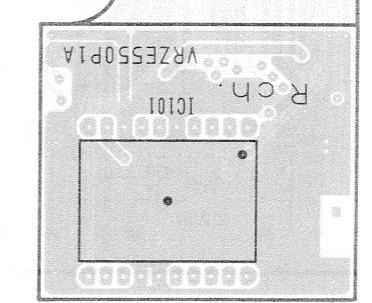
SENSOR BOARD



(PATTERN SIDE VIEW)



G ch.



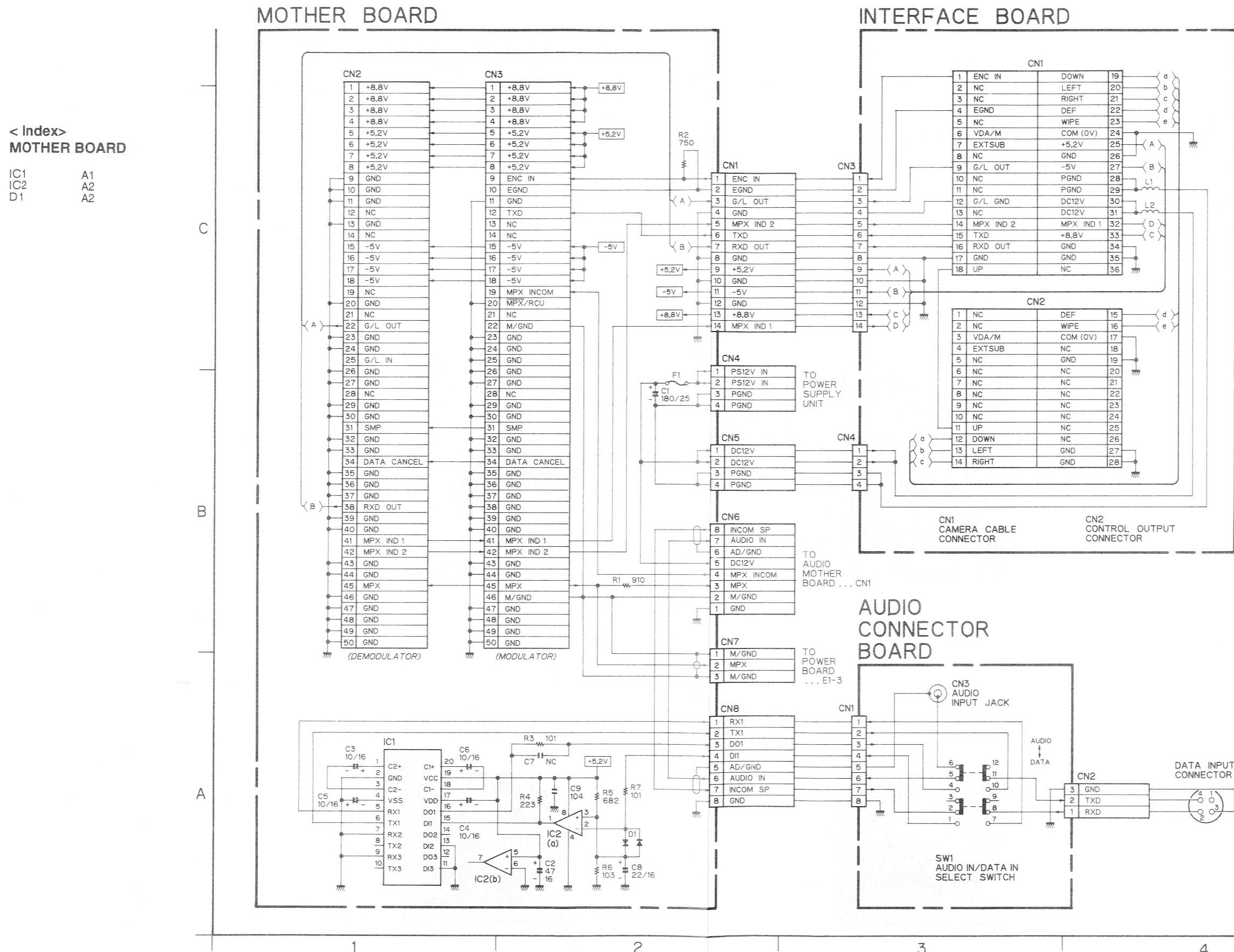
R ch.
PATTERN SIDE
INTERMEDIATE PATTERN

C

B

A

SCHEMATIC DIAGRAM OF MOTHER, INTERFACE, AUDIO CONNECTOR BOARD



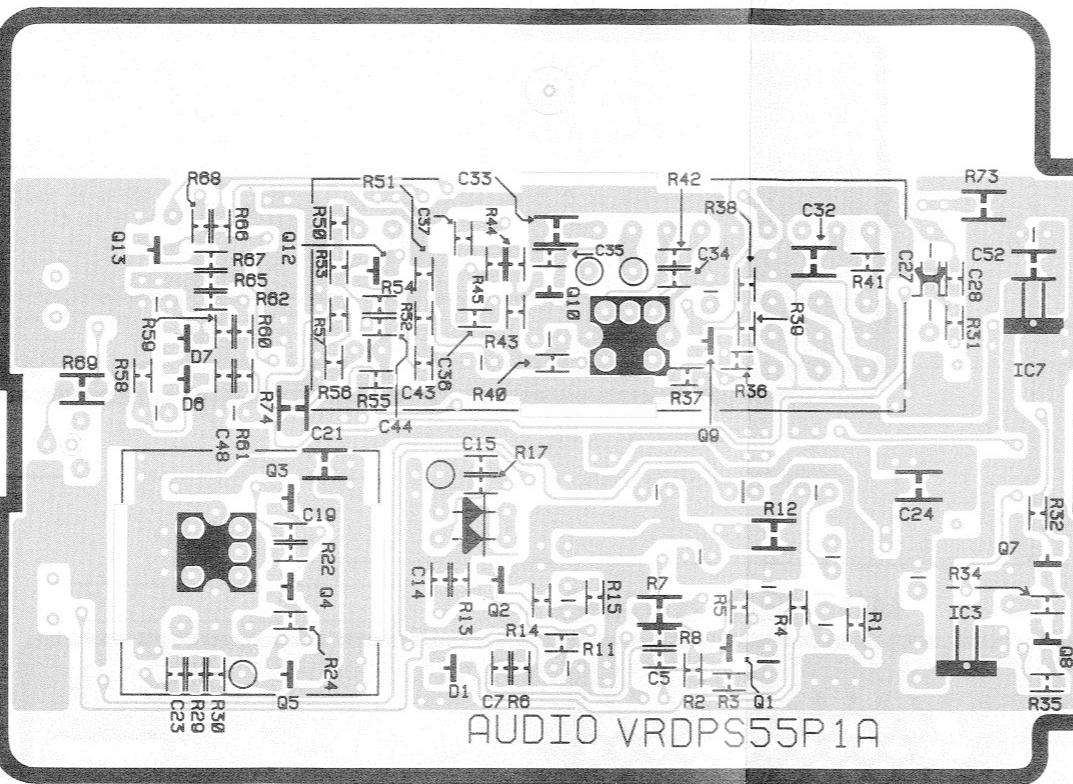
WV-E550E WV-E550E
 WV-PS550 WV-PS550

CONDUCTOR VIEW OF AUDIO/AUDIO MOTHER BOARD (WV-PS550)

AUDIO BOARD

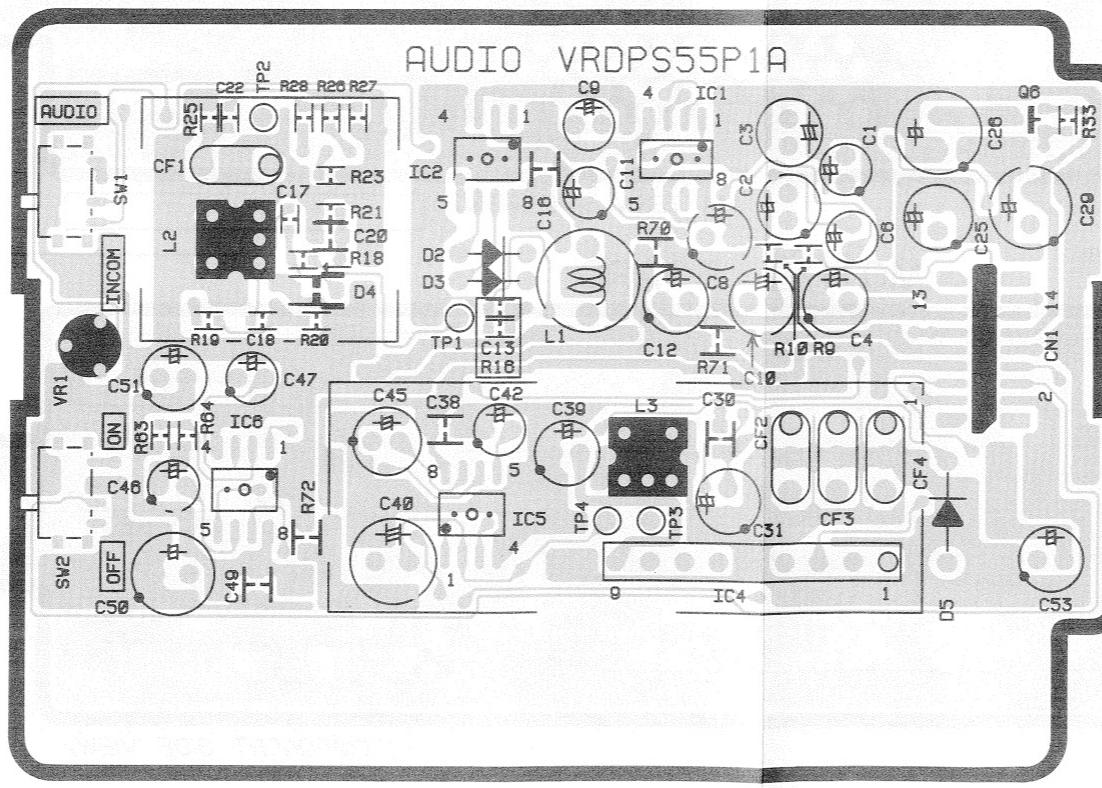
<Index>
AUDIO BOARD

IC1 B2
 IC2 B2
 IC3 C3
 IC4 A2
 IC5 A2
 IC6 A1
 IC7 D3
 Q1 C2
 Q2 C2
 Q3 D1
 Q4 C1
 Q5 C1
 Q6 B3
 Q7 C3
 Q8 C3
 Q9 D2
 Q10 D2
 Q11 D2
 Q12 D1
 Q13 D1
 D1 C2
 D2 B2
 D3 B1
 D4 A3
 D5 D1
 D6 D1
 D7 D1



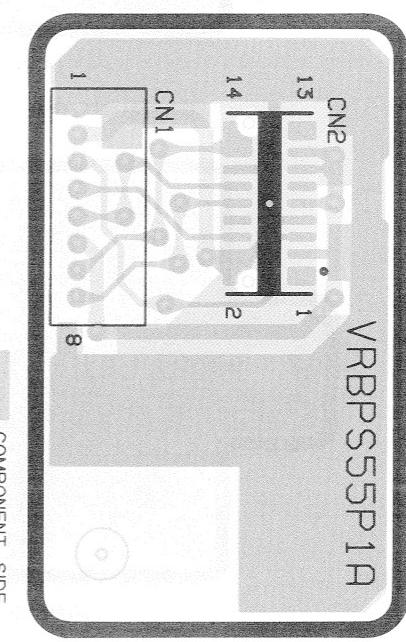
(PATTERN SIDE VIEW)

AUDIO BOARD



(COMPONENT SIDE VIEW)

AUDIO MOTHER BOARD



(COMPONENT SIDE VIEW)

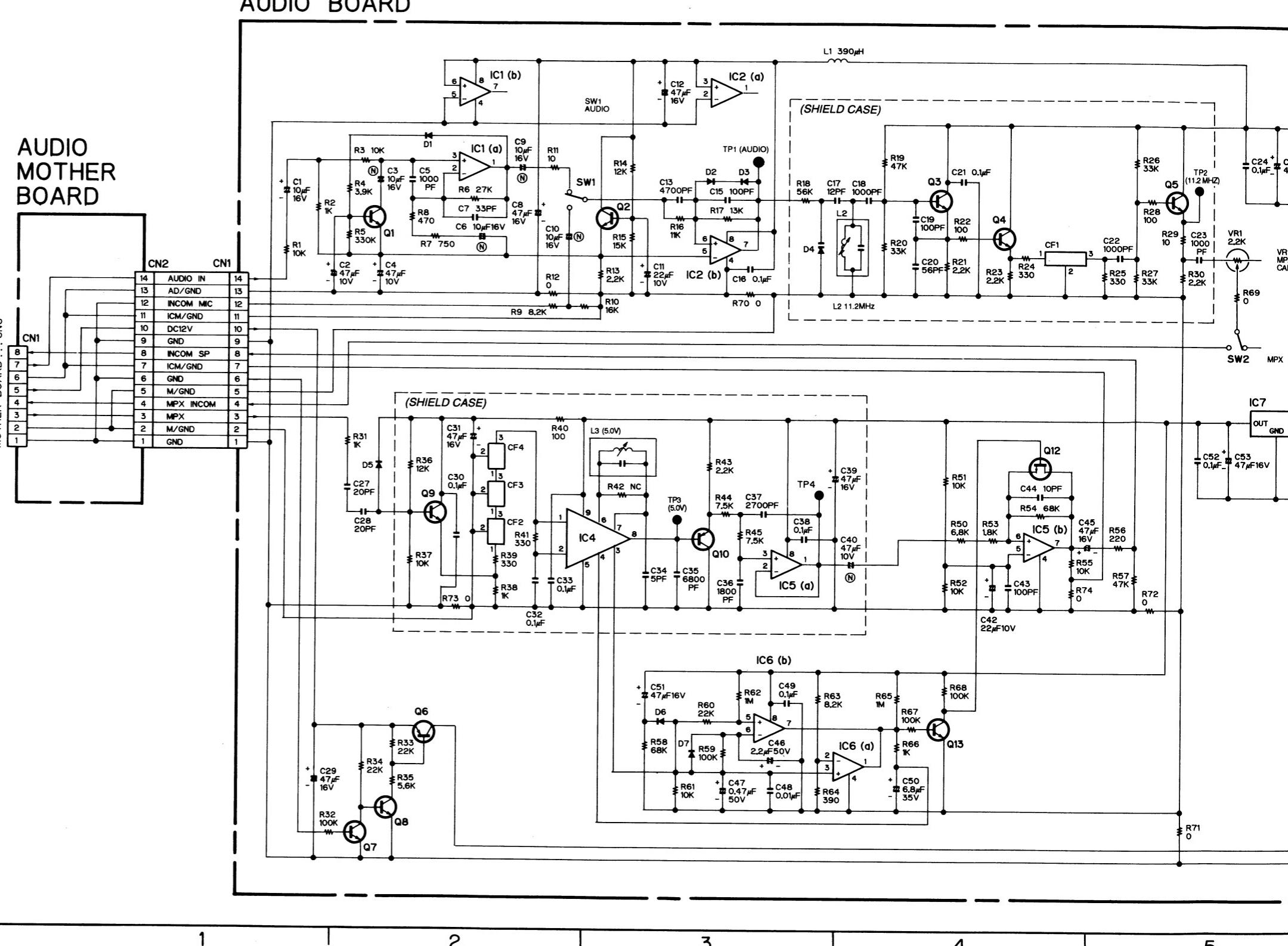
COMPONENT SIDE
PATTERN SIDE

SCHEMATIC DIAGRAM OF AUDIO/AUDIO MOTHER BOARD (WV-PS550)

< Index >

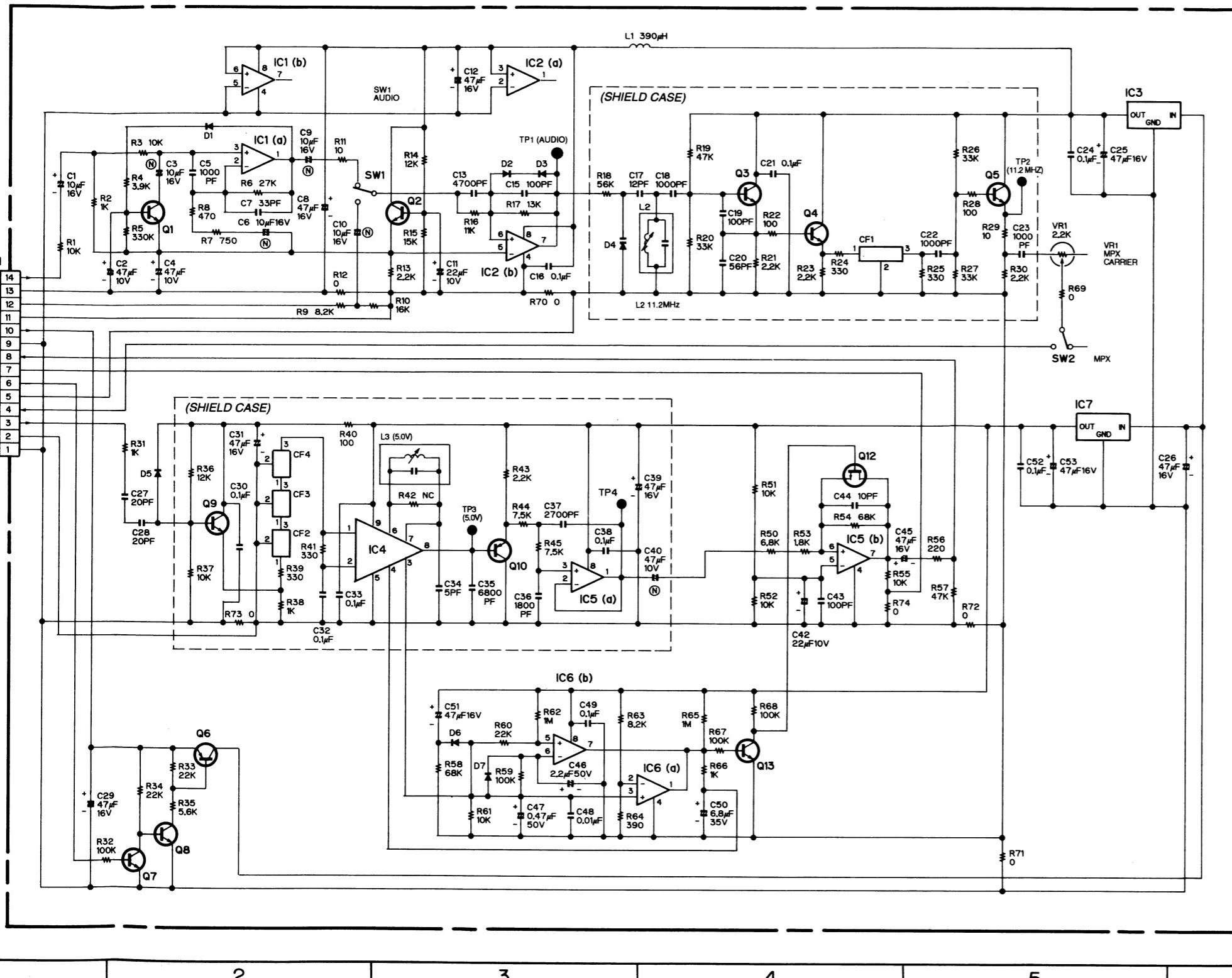
AUDIO BOARD

IC1	C2, D2
IC2	C3, D3
IC3	D5
IC4	B2, B3
IC5	B3, B4
IC6	A3, A4
IC7	B5, C5
Q1	C2
Q2	C3
Q3	C4
Q4	C4
Q5	C5
Q6	A2
Q7	A2
Q8	A2
Q9	B2
Q10	B3
Q11	B4
Q12	D1
Q13	D2
Q14	C3
Q15	C3
Q16	B2
Q17	D5
Q18	D6
Q19	A3
Q20	A3

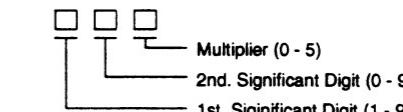


SCHEMATIC DIAGRAM OF AUDIO/AUDIO MOTHER BOARD (WV-PS550)

AUDIO BOARD



Note: The value indicated in the schematic diagram should be read as follows:



<Example>

For Resistor:

$$330 \rightarrow 33 \times 10^0 = 33 \Omega$$

$$561 \rightarrow 56 \times 10^1 = 560 \Omega$$

$$123 \rightarrow 12 \times 10^3 = 12k \Omega$$

$$0R00 = 0 \Omega$$

For Capacitor:

$$820 \rightarrow 82 \times 10^0 = 82 \text{ pF}$$

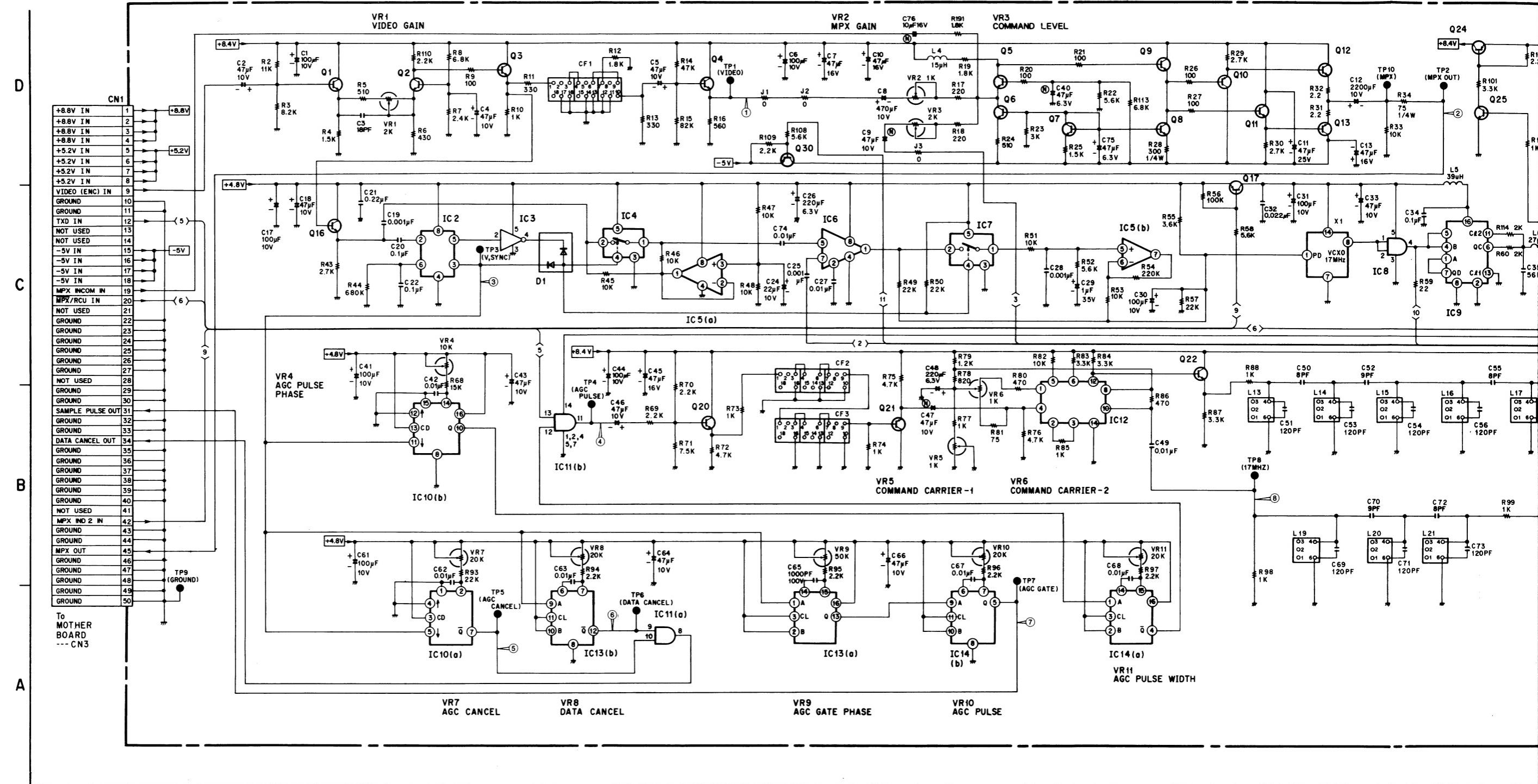
$$102 \rightarrow 10 \times 10^2 = 1000 \text{ pF} = 0.001 \mu\text{F}$$

$$104 \rightarrow 10 \times 10^4 = 100000 \text{ pF} = 0.1 \mu\text{F}$$

The suffix attached to capacitance indicates a type of capacitor.

SCHEMATIC DIAGRAM OF MODULATOR BOARD (WV-PS550)

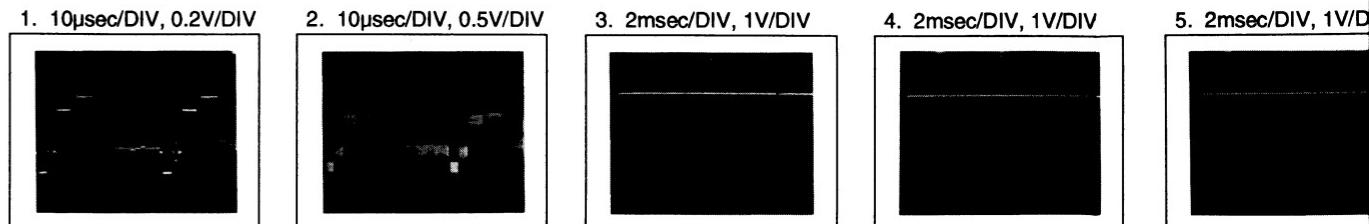
MODULATOR BOARD



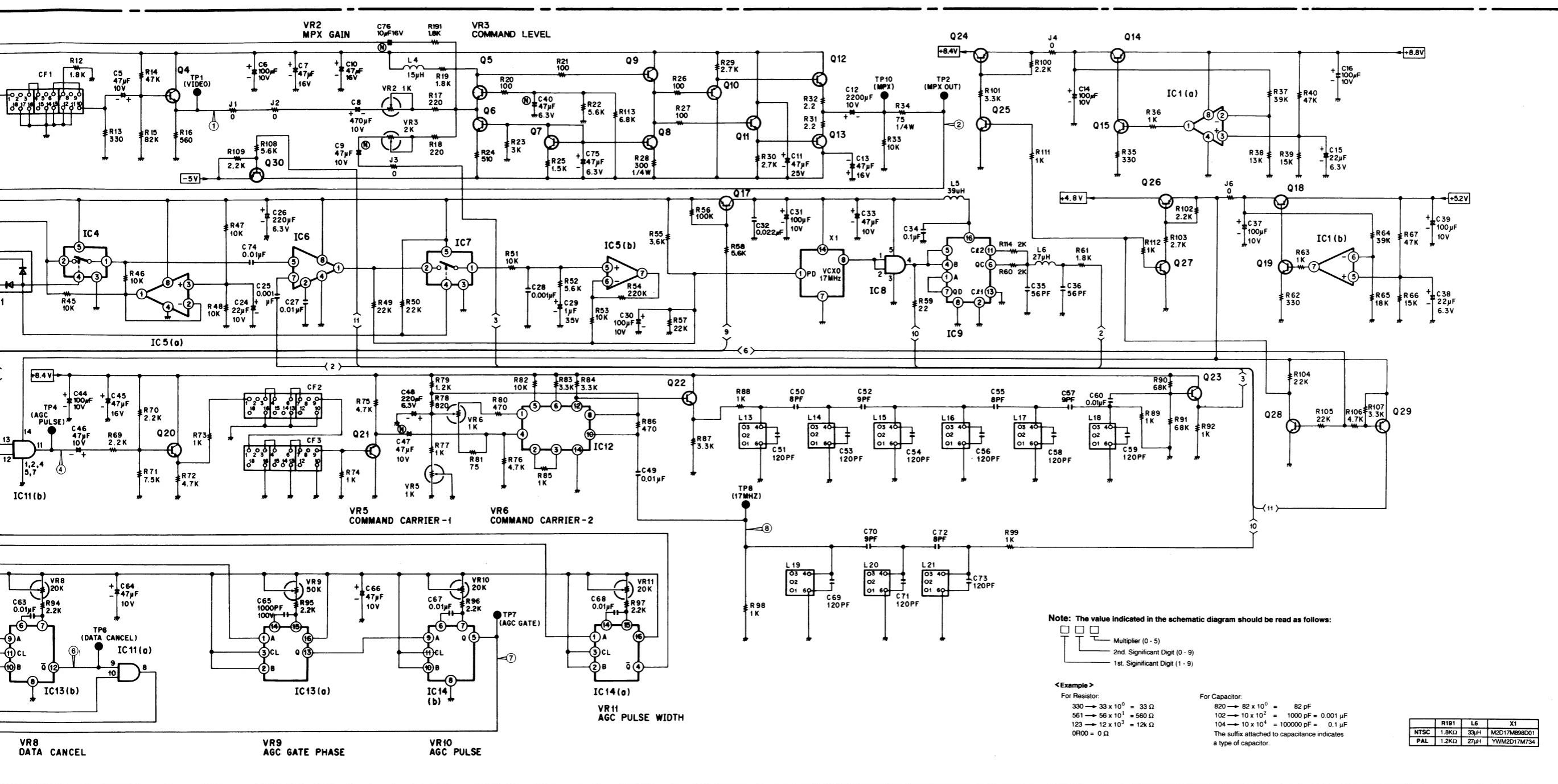
[< Index>](#)

IC1	C9, D9	IC9	C7, C8	Q3	D3	Q11	D7	Q19	C9	Q27	C9
IC2	C2, C3	IC10	A2/B2, A3	Q4	D4	Q12	D7	Q20	B4	Q28	B9
IC3	C3	IC11	B3/A4	Q5	D5	Q13	D7	Q21	B5	Q29	B10
IC4	C3, C4	IC12	B6	Q6	D5	Q14	D8	Q22	C6	Q30	D4
IC5	C4/C6	IC13	A3/A4, A5	Q7	D6	Q15	D8	Q23	C9	D1	C3
IC6	C4,C5	IC14	A5/A6	Q8	D6	Q16	C2	Q24	D8		
IC7	C5	Q1	D2	Q9	D6	Q17	C6, C7	Q25	D8		
IC8	C7	Q2	D2	Q10	D7	Q18	C9	Q26	C9		

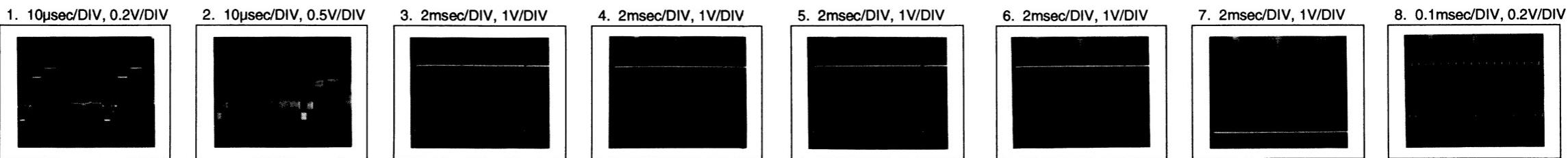
<Waveform>



SCHEMATIC DIAGRAM OF MODULATOR BOARD (WV-PS550)



<Waveform>

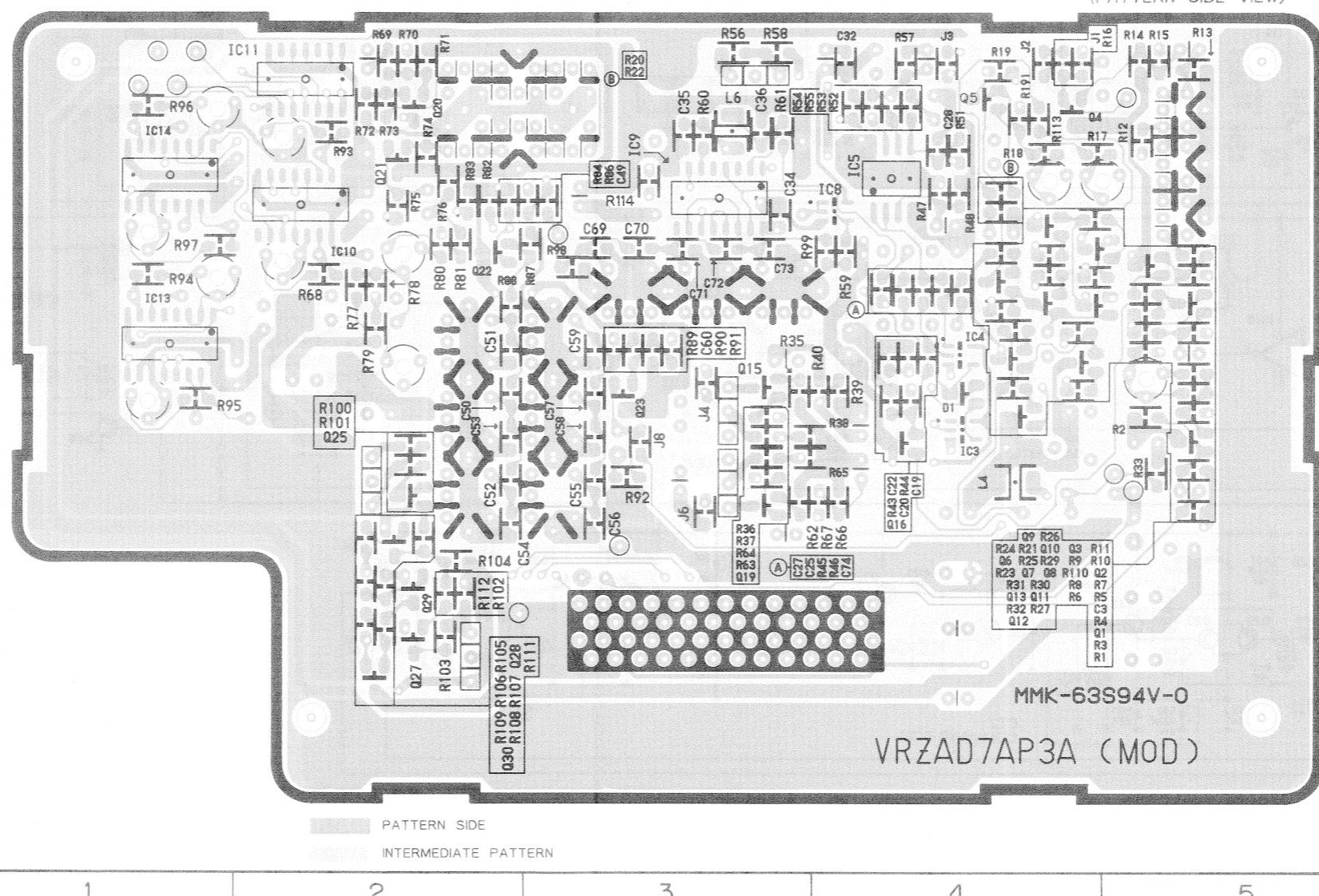


C9	Q27	C9
B4	Q28	B9
B5	Q29	B10
C6	Q30	D4
C9	D1	C3
D8		
D8		
C9		

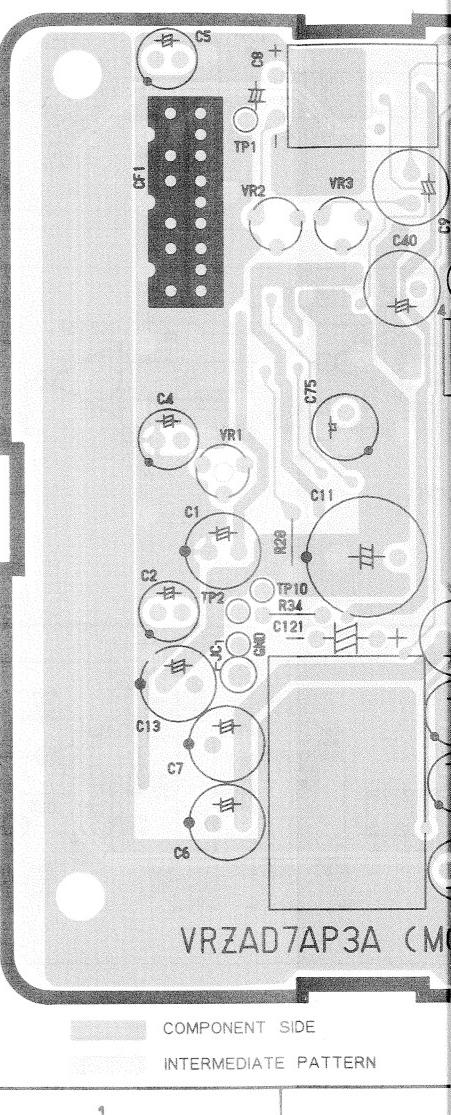
CONDUCTOR VIEW OF MODULATOR BOARD (WV-PS550)

MODULATOR BOARD

	I _{C1}	I _{C2}	I _{C3}	I _{C4}	I _{C5}	I _{C6}	I _{C7}	I _{C8}	I _{C9}	I _{C10}	I _{C11}	I _{C12}	I _{C13}	I _{C14}	
Pin 1	0	0	0	2.5	2.5	4.2	4.1	0	0	0	0	3.1	4.9	0	
2	2.1		4.6	0.3	0.4	2.5	4.2	0	0	5.0	0	2.4	5.0	5.0	
3	0	4.9	0.2	0	2.5	1.8	0	0	0	5.0	0	0	5.0	0	
4	0	0	0.3	0.8	0	0	0.8	0	0	0	0	0	3.1	5.0	
5	1.2	0	5.0	5.0	4.2	1.8	0	0.1	0	4.9	0	1.0	0	0	
6	1.6	1.2			4.2	2.5			0	0	0	0	0	0	
7	0.7	2.5			2.9	2.5			0	0	0	0	4.9	5.0	
8	0	5.0			5.0	5.0			0	0	4.9	5.3	0	0	
9									0	5.0	0	0	4.9	0	
10									0	0	0	5.3	5.0	5.0	
11									0	0	5.0	0	5.0	5.0	
12									0	5.0	5.0	5.9	0	0	
13									0	5.0	5.0	0	0	0	
14									0	5.0	0	0	0	0	
15									0	0			5.0	4.9	
16									0	5.0			5.0	5.0	
	B	C	E		B	C	E		B	C	E		B	C	
Q1	3.5	8.6	2.7		15	3.2	5.0	2.6							
2	2.2	4.0	1.4		17	4.9	0	5.0							
3	4.0	0.2	3.2		18	4.5	5.0	5.1							
4	0.3	8.6	4.1		19	0.7	4.5	0							
5	-2.4	1.6	0.5		20	0	8.6	5.9							
6	-2.9	-3.1	-3.7		21	2.9	0	0							
7	-2.9	-2.9	0.3		22	5.9	0	5.1							
8	-2.9	0.9	0.3		23	3.4	8.6	2.7							
9	0.3	8.6	0.9		24	7.9	8.6	8.6							
10	0.9	-4.9	0.3		25	0.6	0	0							
11	0.9	8.5	0.1		26	4.4	5.0	5.0							
12	1.6	8.6	0.9		27	0.6	0	0							
13	0.4	-4.9	0.9		28	0	0.7	0							
14	8.0	8.6	8.7		29	4.3	5.0	5.0							
15	0.7	8.0	0.1		30	-4.2	0	0							



MODULATOR BOARD



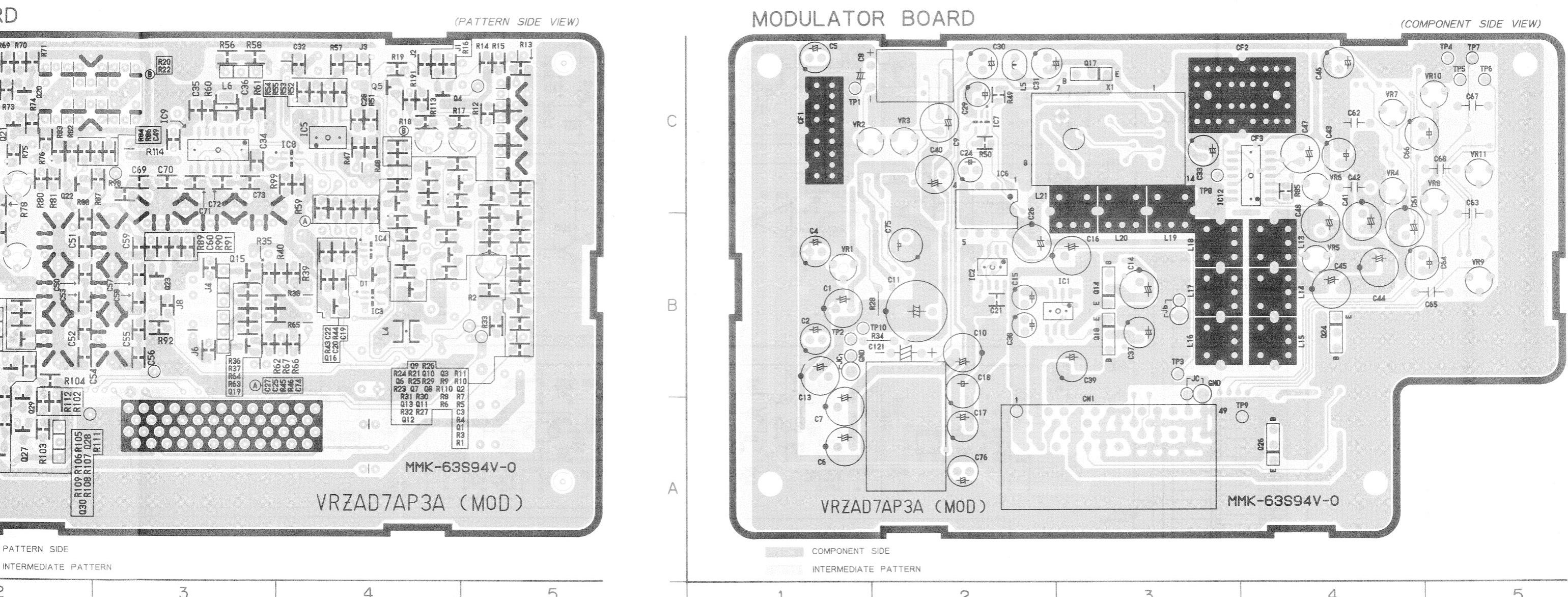
< Index>
MODULATOR BOARD
PATTERN SIDE

IC3	B4	Q10	C
IC4	B4	Q11	B
IC5	C4	Q12	B
IC8	C4	Q13	B
IC9	C3	Q15	B
IC10	C2	Q16	B
IC11	C2	Q19	B
IC13	B1	Q20	C
IC14	C1	Q21	C
Q1	B5	Q22	C
Q2	B5	Q23	B
Q3	C3	Q25	B
Q4	C4	Q27	A
Q5	C4	Q28	B
Q6	B4	Q29	A
Q7	B4	Q30	A
Q8	B4	D1	B
Q9	C4		

**< Index>
MODULATOR BOARD
COMPONENT SIDE**

IC1	B2,B3
IC2	B2
IC6	B2,C2
IC7	C2
IC12	C4
Q14	B3
Q17	C3
Q18	B3
Q24	B4
Q26	A4

CONDUCTOR VIEW OF MODULATOR BOARD (WV-PS550)



< Index > MODULATOR BOARD COMPONENT SIDE

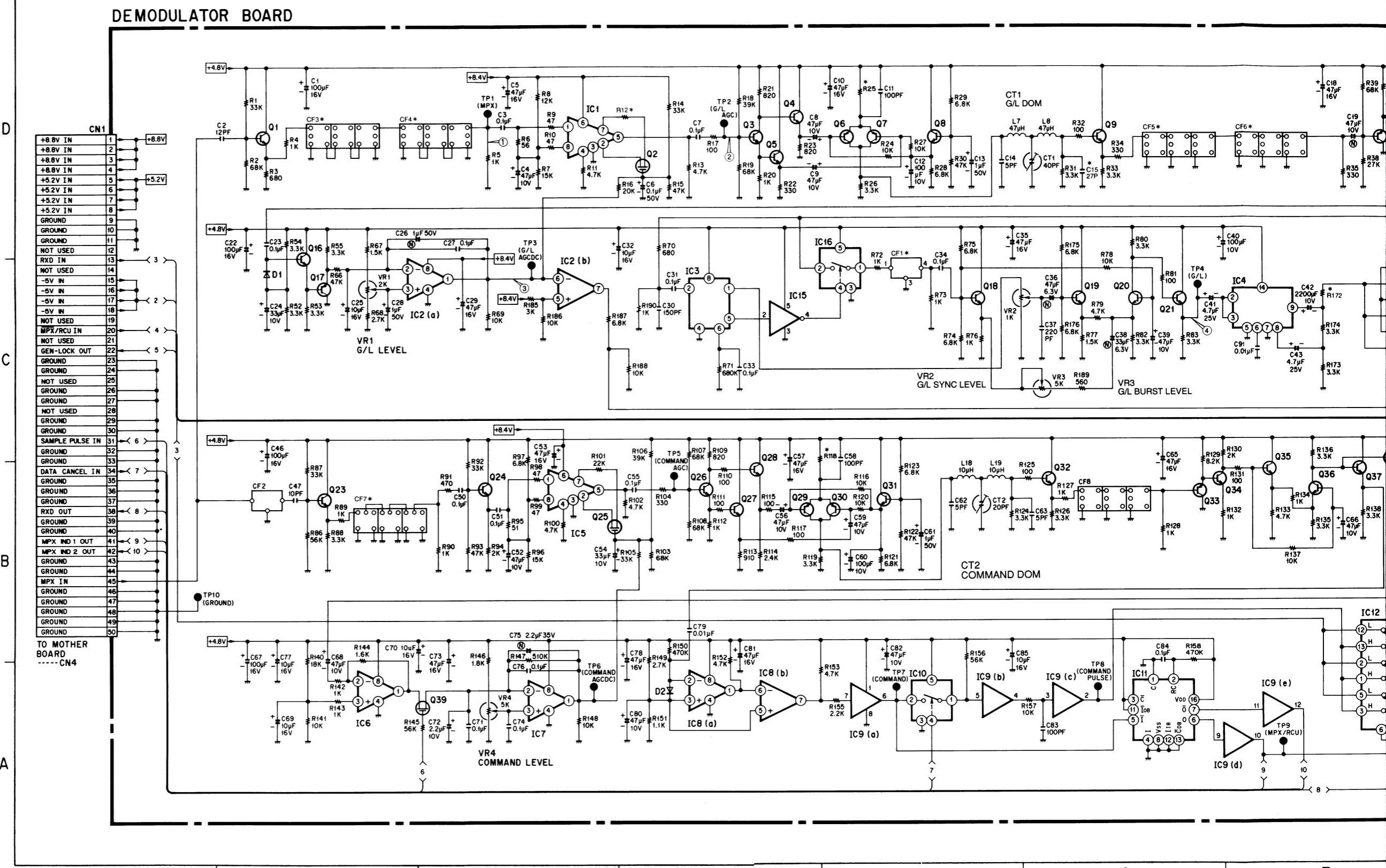
IC1	B2,B3
IC2	B2
IC6	B2,C2
IC7	C2
IC12	C4
Q14	B3
Q17	C3
Q18	B3
Q24	B4
Q26	A4

SCHEMATIC DIAGRAM OF DEMODULATOR BOARD (WV-PS550)

<Index>

DEMODULATOR BOARD

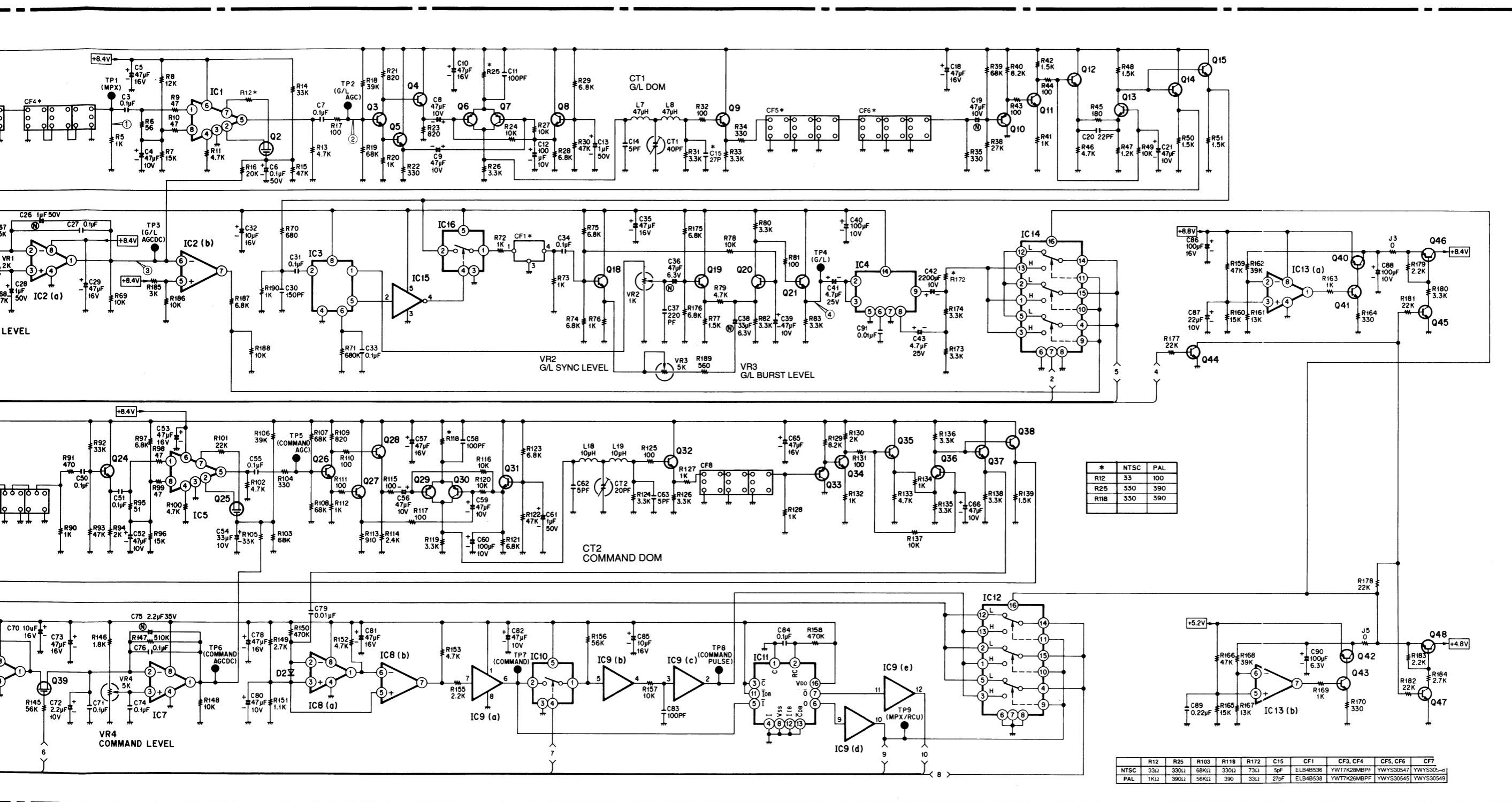
IC1	D3
IC2	C3
IC3	C4
IC4	C7
IC5	B3
IC6	A2
IC7	A3
IC8	A4
IC9	A5, A6, A7
IC10	A5
IC11	A6
IC12	B7
IC13	C9, A9
IC14	C7
IC15	C4
IC16	D5
Q1	D2
Q2	D4
Q3	D4
Q4	D4
Q5	D5
Q6	D5
Q7	D5
Q8	D5
Q9	D6
Q10	D7
Q11	D7
Q12	D8
Q13	D8
Q14	D8
Q15	D2
Q16	C2
Q17	C5
Q18	C6
Q19	C5
Q20	C6
Q21	C6
Q22	B2
Q23	B3
Q24	B3
Q25	B4
Q26	B4
Q27	B4
Q28	B4
Q29	B5
Q30	B5
Q31	B5
Q32	B6
Q33	B6
Q34	B7
Q35	B7
Q36	B7
Q37	C7
Q38	C7
Q39	A3
Q40	C9
Q41	C9
Q42	Q9
Q43	A9
Q44	C8
Q45	C9
Q46	C9
Q47	A9
Q48	B9
D1	C2
D2	A4



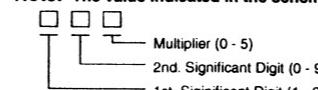
Note: The value indicated in the

□□□ Multiplier (0 - 5)
□□ 2nd. Significant D
□ 1st. Significant D

SCHEMATIC DIAGRAM OF DEMODULATOR BOARD (WV-PS550)



Note: The value indicated in the schematic diagram should be read as follows:



<Example>

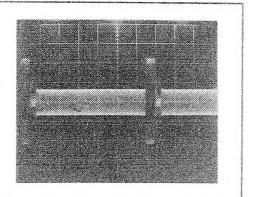
For Resistor:
 330 → $33 \times 10^0 = 33 \Omega$
 561 → $56 \times 10^1 = 560 \Omega$
 123 → $12 \times 10^3 = 12 k\Omega$
 0R00 = 0 Ω

For Capacitor:
 820 → $82 \times 10^0 = 82 \mu F$
 102 → $10 \times 10^2 = 1000 \mu F = 0.001 \mu F$
 104 → $10 \times 10^4 = 100000 \mu F = 0.1 \mu F$
 The suffix attached to capacitance indicates a type of capacitor.

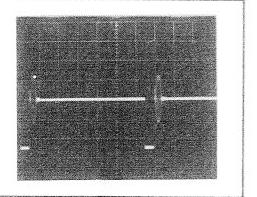
CONDUCTOR VIEW OF DEMODULATOR BOARD (WV-PS550)

<Waveform>

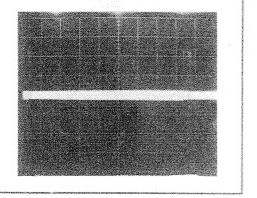
1. 10μsec/DIV, 0.1V/DIV



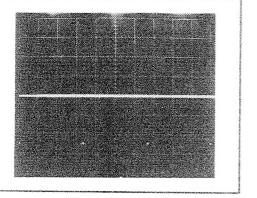
2. 10μsec/DIV, 0.2V/DIV



3. 2msec/DIV, 0.1V/DIV



4. 5msec/DIV, 2V/DIV



< Voltages >

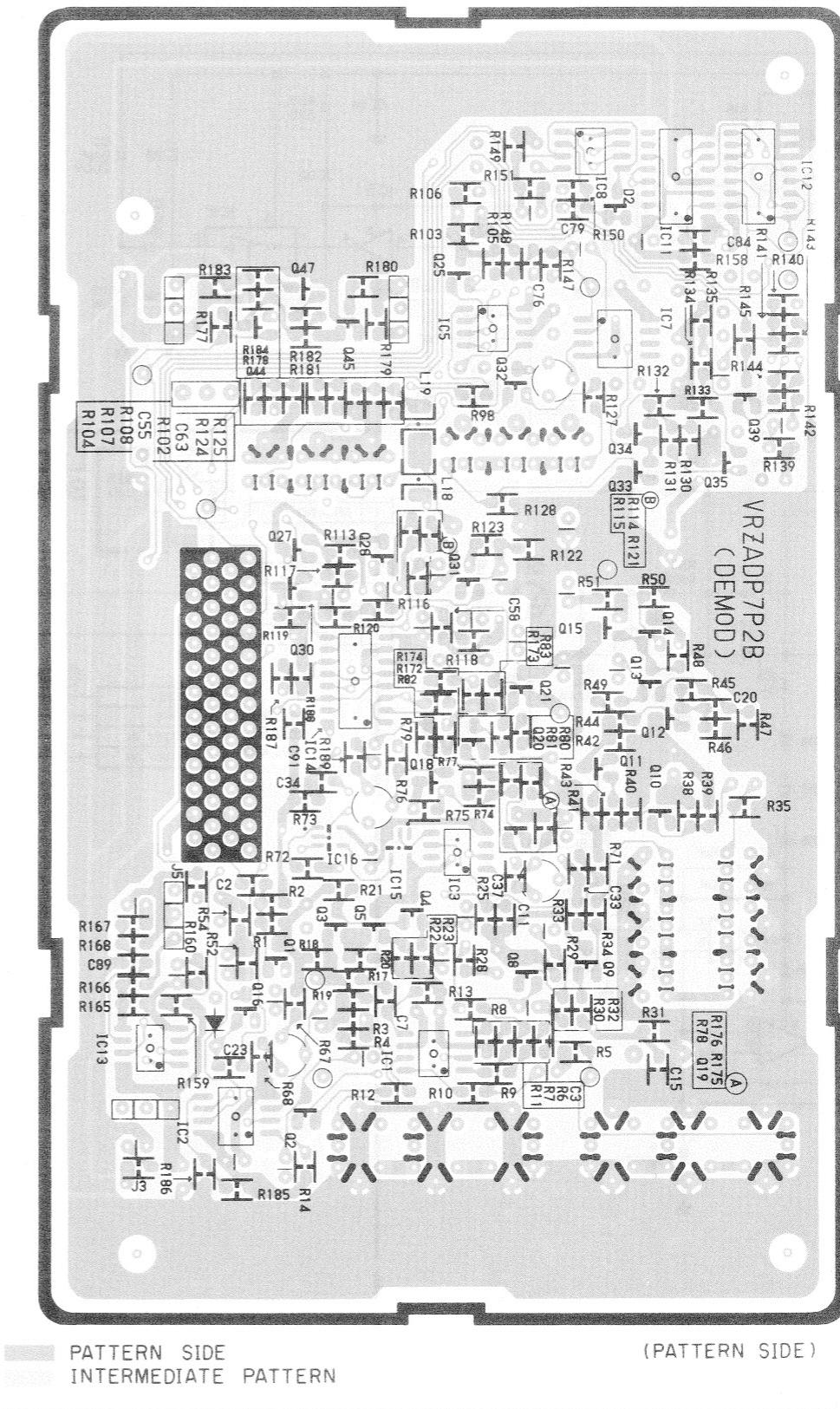
	IC1	IC2	IC3	IC4	IC5	IC6	IC7	IC8	IC9	IC10	IC11	IC12	IC13	IC14	IC15	IC16
Pin 1.	5.0	7.2	0	1.6	3.3	1.8	3.6	0	4.9	4.9	0	4.9	0	0	0	0.7
2	3.9	2.2	1.5	1.2	2.6	1.8	41.8	1.8	4.9	0	4.9	5.1	2.1	0	4.9	3.1
3	0	3.3	0	1.2	0	1.8	3.0	1.4	4.9	0	4.9	4.9	2.1	0	0	0
4	6.2	0	0	2.4	6.3	0	0	0	4.9	4.9	0	5.1	0	0	0	0
5	0	6.7	0.3	0	6.4	1.8	0	1.4	4.9	4.9	5.1	1.2	0	4.9	4.9	6
6	0	7.2	1.2	2.4	8.6	0	0	0	4.9	0	0	1.2	0			
7	4.6	0	0	0	2.6	4.7	3.6	4.9	4.9	4.9	0	2.1	-5.0			
8	4.6	8.6	4.9	1.3	0	4.9	4.9	4.9	0	0	0	8.7	0			
9																
10																
11																
12																
13																
14																
15																
16																

< Index >

DEMODULATOR BOARD PATTERN SIDE

IC1	B2
IC2	A1
IC3	B2
IC5	D2
IC7	D2,D3
IC8	D2
IC11	D3
IC12	D3
IC13	B1
IC14	C2
IC15	B2
IC16	B2
Q1	B1
Q2	A2
Q3	B2
Q4	B2
Q5	B2
Q8	B2
Q9	B2
Q10	B3
Q11	B2
Q12	C3
Q13	C3
Q14	C3
Q15	C2
Q16	B2
Q18	B2
Q19	C2
Q20	C2
Q21	D2
Q25	C1,C2
Q27	C2
Q28	C1,C2
Q30	C2
Q31	C2
Q32	D2
Q33	C3
Q34	C3
Q35	C3
Q39	D3
Q44	D1
Q45	D2
Q47	D2,D3

DEMODULATOR BOARD



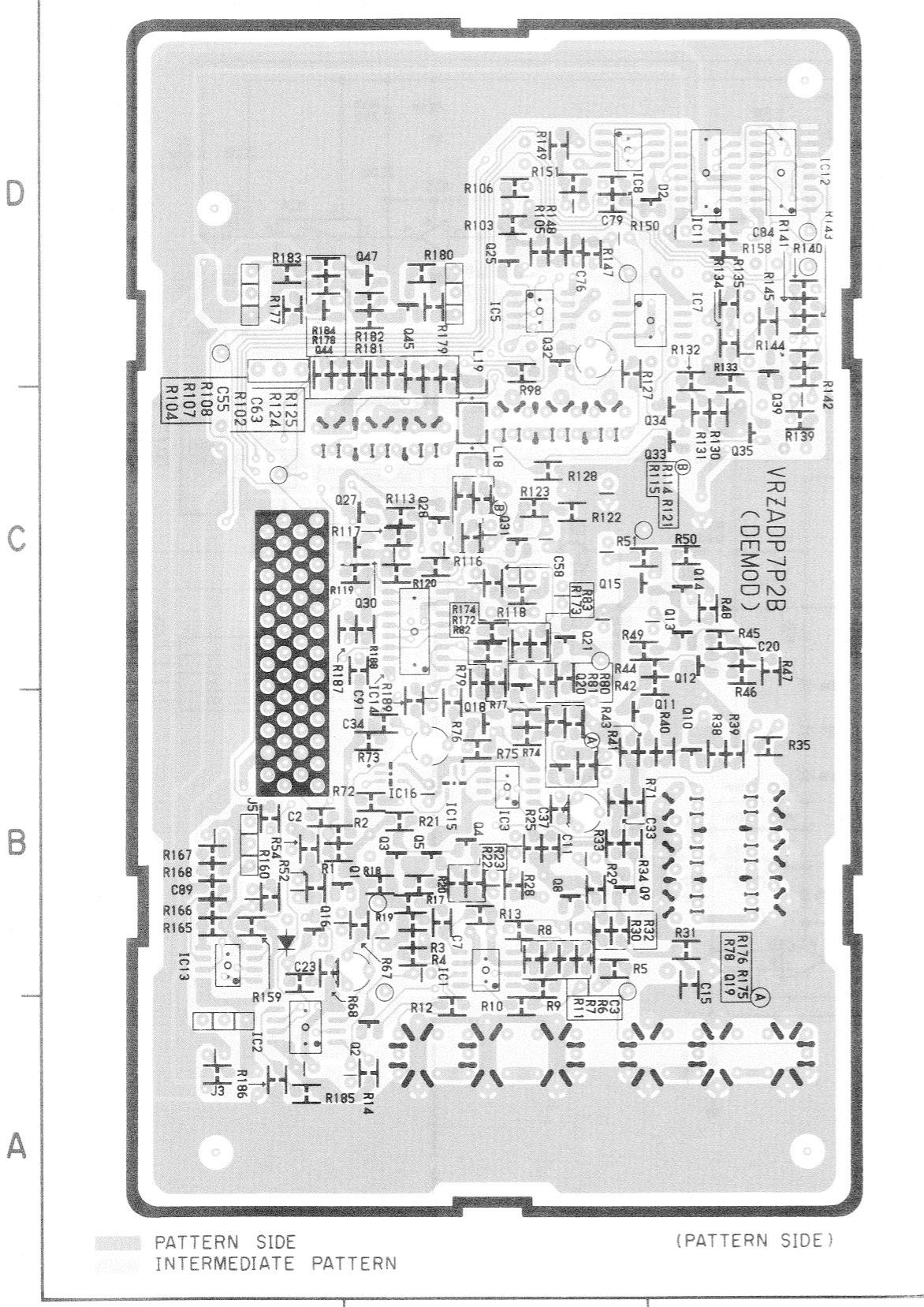
< Index >

DEMODULATOR BOARD COMPONENT SIDE

IC4	C2
IC6	D1
IC9	D1
IC10	B2
Q6	B2
Q7	B2
Q17	B2
Q23	D2
Q24	C2
Q26	C2
Q29	D1
Q36	C1
Q37	C1
Q38	B3
Q40	B3
Q41	B3
Q42	B3
Q43	B3
Q46	D2
Q48	D3

CONDUCTOR VIEW OF DEMODULATOR BOARD (WV-PS550)

DEMODULATOR BOARD



SCHEMATIC DIAGRAM OF POWER BOARD (WV-PS550)

POWER BOARD					
	IC1	IC2	IC3	IC4	IC5
Pin 1	0	-	-	13.7	
2	0	0	0	10.4	
3	0.1	0	0	10.3	
4	-	-	-	0	
5	0	0	6.0	10.3	
6				10.3	
7				10.3	
8				6.3	
101	89.7	103.4	89.0		

	B	C	E
Q3	0.7	0	0
4	0	103.1	0
5	103.2	0	103.2
6	89.2	59.3	89.4
7	0	1.9	0
8	59.3	89.2	89.2
101	89.7	103.4	89.0

Power Supply Board <Voltage>

PIN	IC1	IC2	PC1	PC2
1	7.9	2.4	0.2	11.9
2	1.6	0	-0.1	10.9
3	1.6	10.5	1.6	1.5
4	1.6		15.5	7.7
5	6.2			
6	15.6			
7	1.6			

	G	D	S
Q1	6.2	88.2	1.7

Note: The value indicated in the schematic diagram should be read as follows:

Multiplier (0 - 5)

 2nd. Significant Digit (0 - 9)

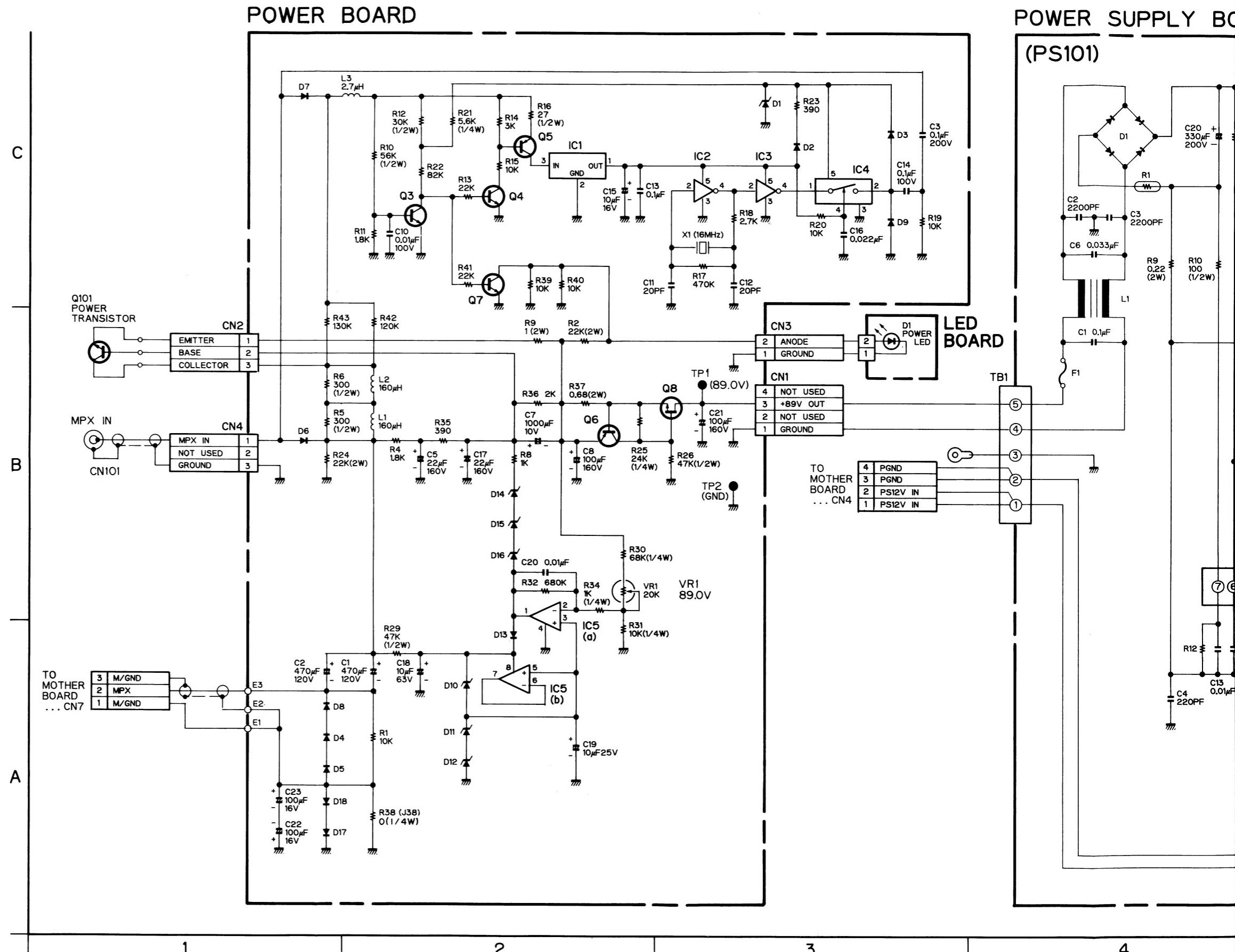
 1st. Significant Digit (1 - 9)

<Example>

For Resistor:

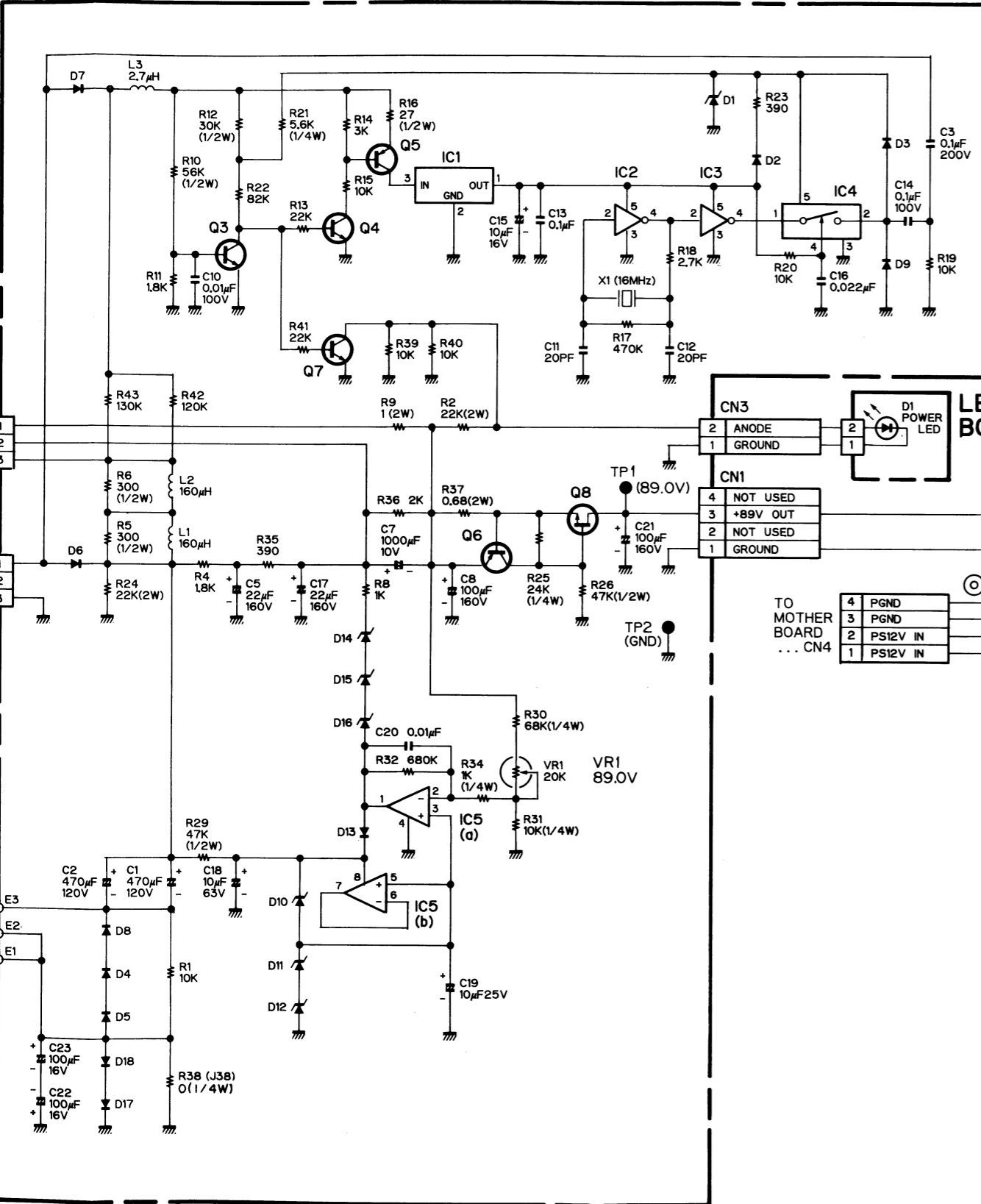
$330 \rightarrow 33 \times 10^0 = 33 \Omega$
 $561 \rightarrow 56 \times 10^1 = 560 \Omega$
 $123 \rightarrow 12 \times 10^3 = 12k \Omega$
 $0R00 = 0 \Omega$

For Capacitor:
 $820 \rightarrow 82 \times 10^0 = 82 \text{ pF}$
 $102 \rightarrow 10 \times 10^2 = 1000 \text{ pF} = 0.001 \mu\text{F}$
 $104 \rightarrow 10 \times 10^4 = 100000 \text{ pF} = 0.1 \mu\text{F}$
 The suffix attached to capacitance indicates a type of capacitor.

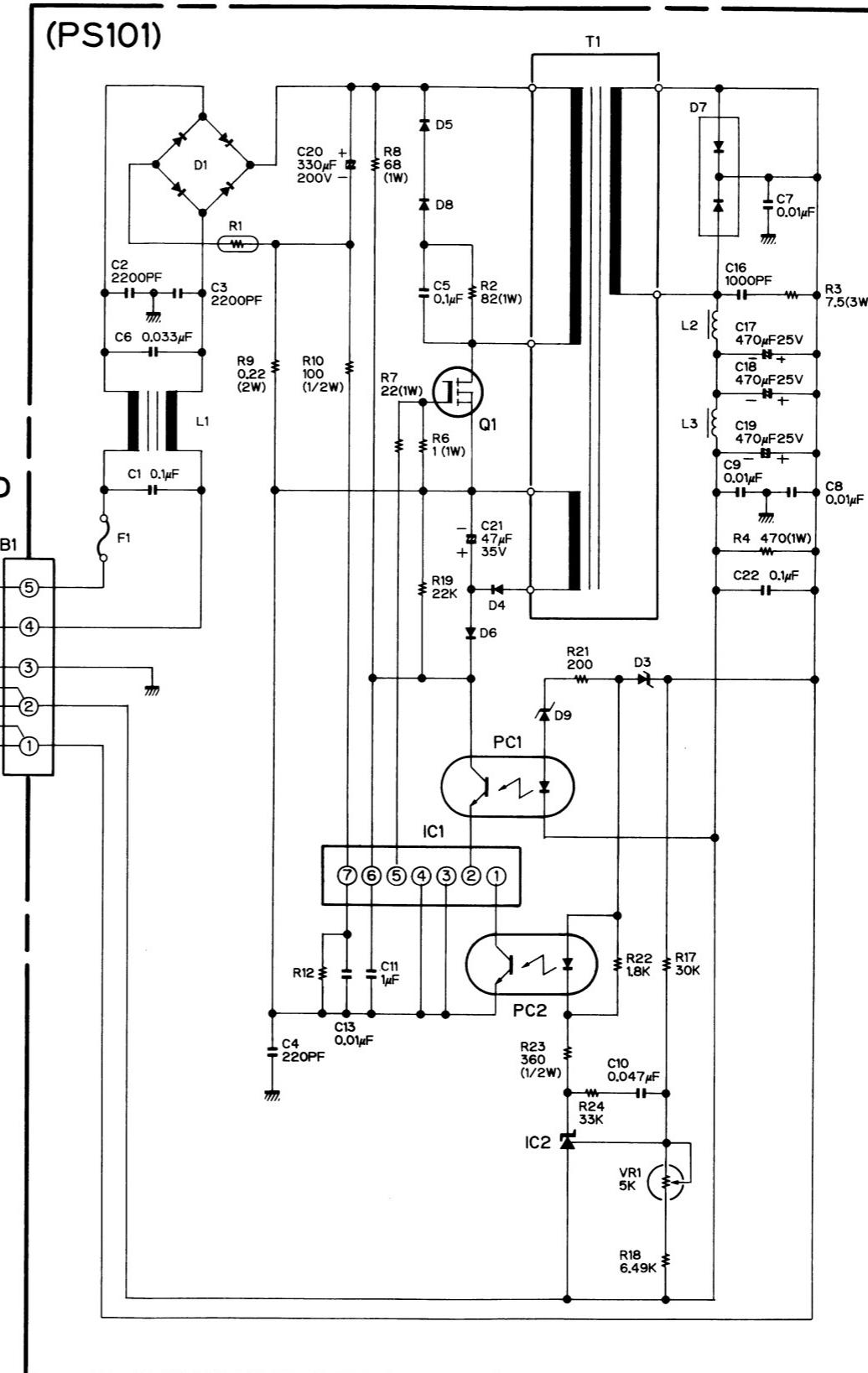


SCHEMATIC DIAGRAM OF POWER BOARD (WV-PS550)

POWER BOARD



POWER SUPPLY BOARD (PS101)



< Index >
POWER BOARD

IC1	C2
IC2	C3
IC3	C3
IC4	A2, B2
IC5	C2
Q3	C2
Q4	C2
Q5	B2
Q6	C2
Q7	B2
Q8	B3
Q101	B1
D1	C3
D2	C3
D3	C3
D4	C3
D5	A1
D6	B1
D7	C1
D8	A8
D9	C3
D10	A2
D11	A2
D12	A2
D13	B2
D14	B2
D15	B2
D16	B2
D17	A1
D18	A1
D101	B3

< Index >
POWER SUPPLY
BOARD

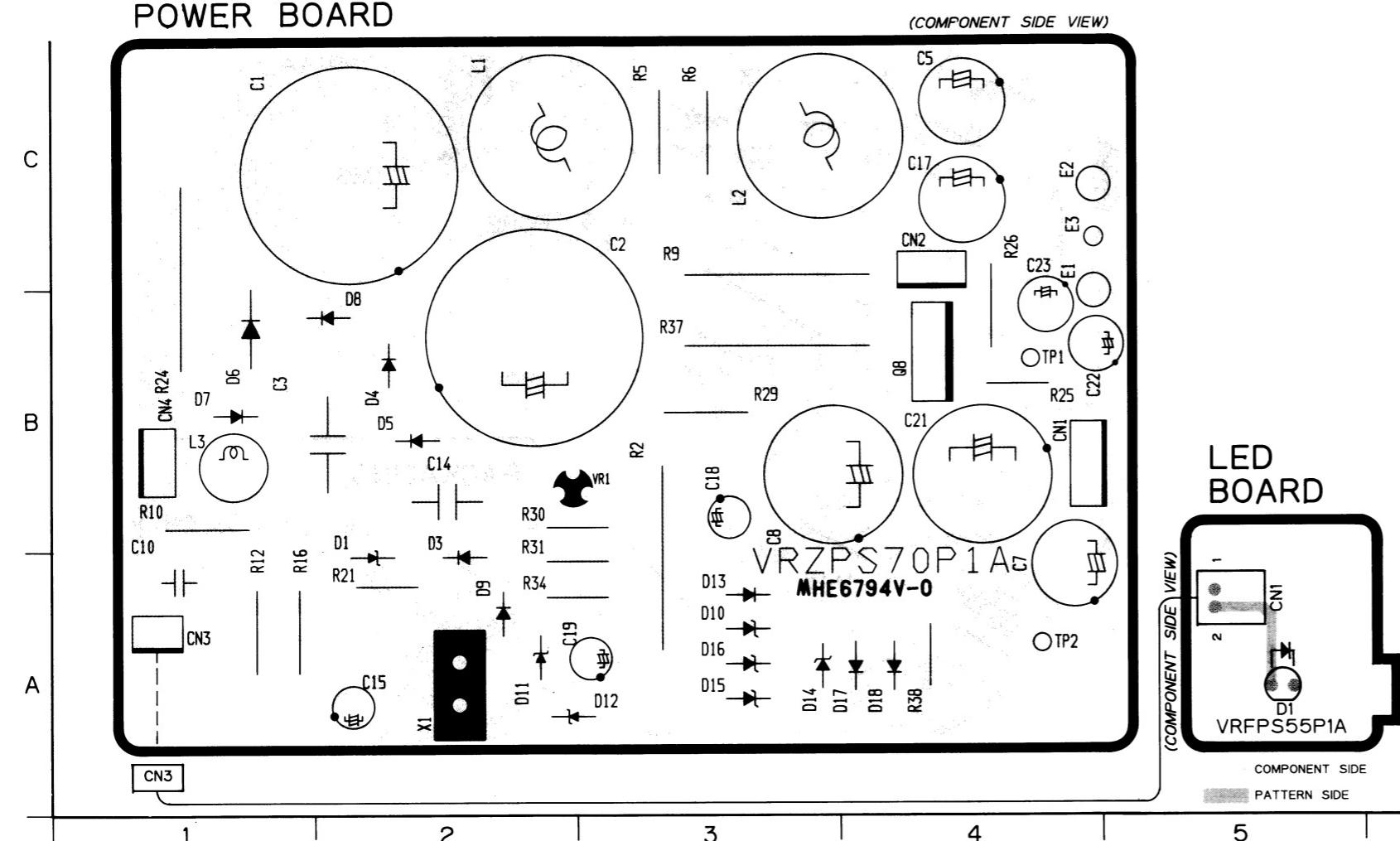
IC1	B4, B5
IC2	A5
Q1	C5
D1	C4
D3	B5
D4	B5
D5	C5
D6	B5
D7	C5
D8	C5
D9	B5
PC1	B5
PC2	A5

< Index >
LED BOARD

D1	B3
----	----

CONDUCTOR VIEW OF R

POWER BOARD



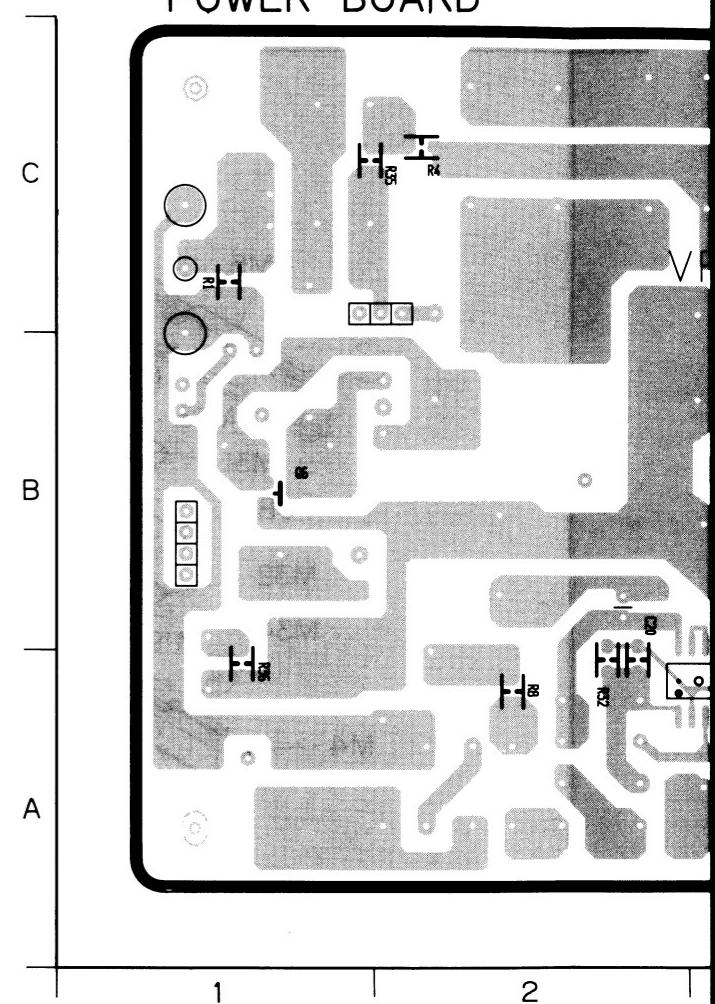
< Index >
POWER BOARD
COMPONENT SIDE

Q8	B4
D1	A2
D3	A2
D4	B2
D5	B2
D6	B1
D7	B1
D8	B2
D9	A2
D10	A3
D11	A2
D12	A2, A3
D13	A3
D14	A3
D15	A3
D16	A3
D17	A4
D18	A4

< Index >
LED BOARD

D1 A5

POWER BOARD

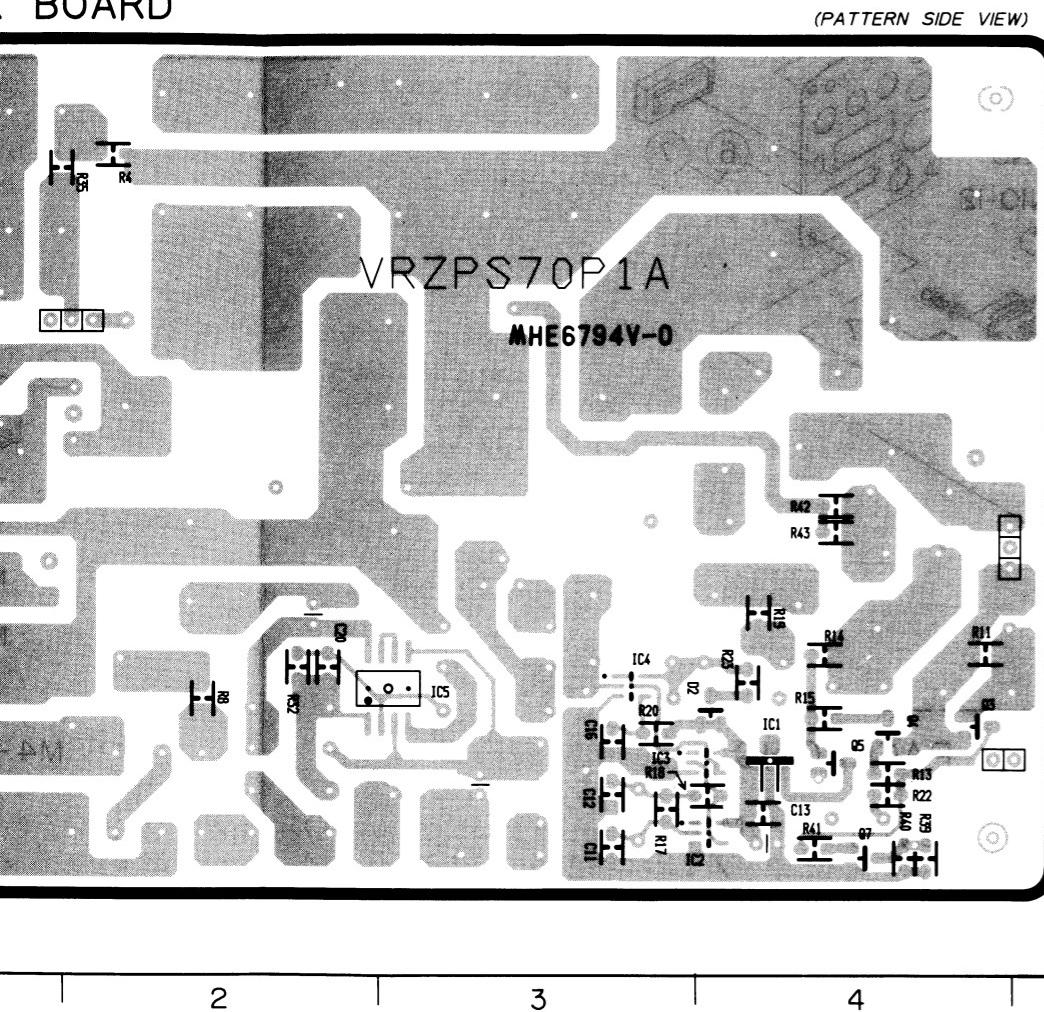


< Index >
POWER BOARD
PATTERN SIDE

IC1	A4
IC2	A4
IC3	A4
IC4	A3
IC5	A2, A3
Q3	A4
Q4	A4
Q5	A4
Q7	A4
D2	A4

TOR VIEW OF POWER BOARD (WV-PS550)

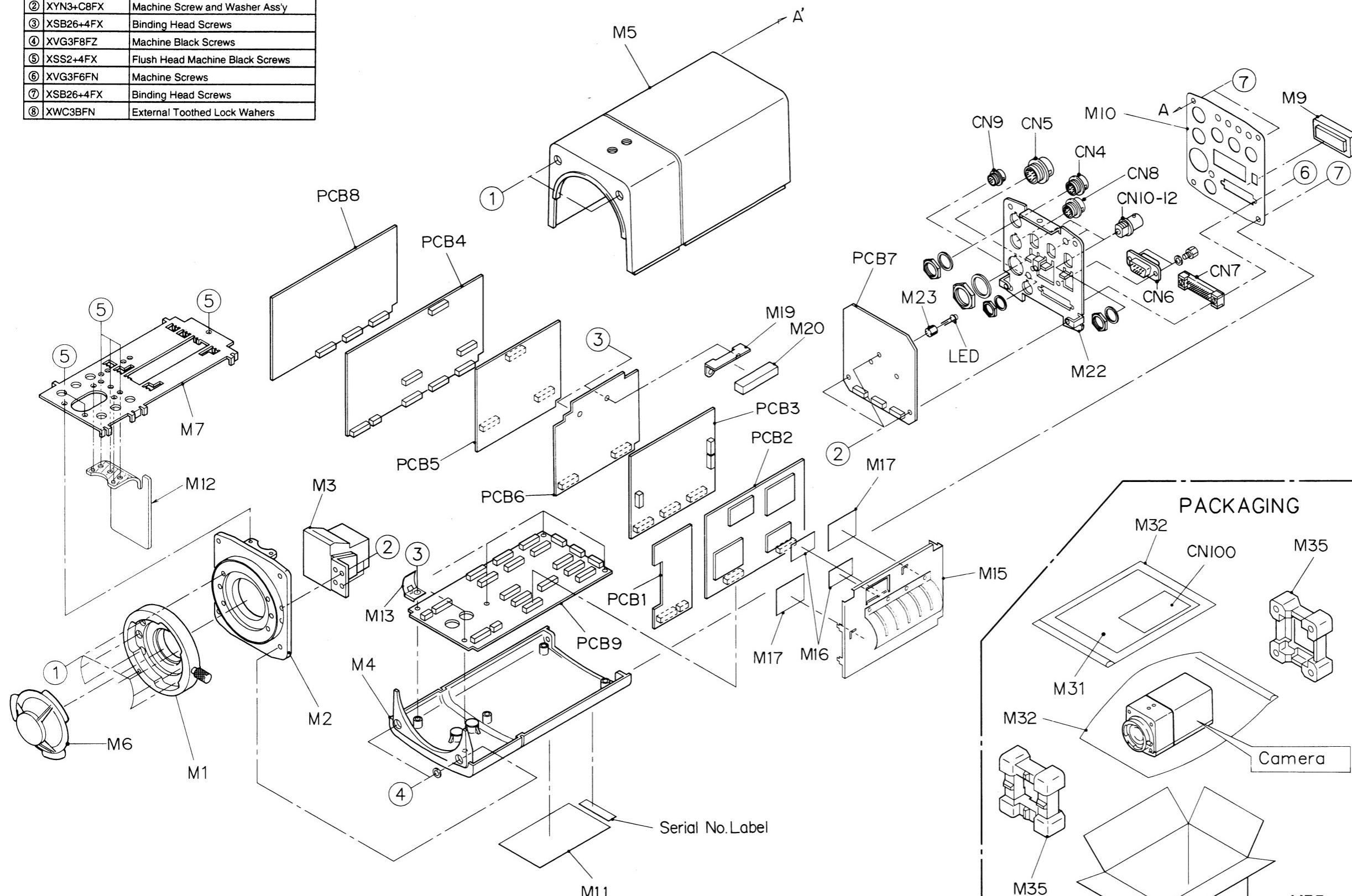
BOARD



EXPLODED VIEW (WV-E550E)

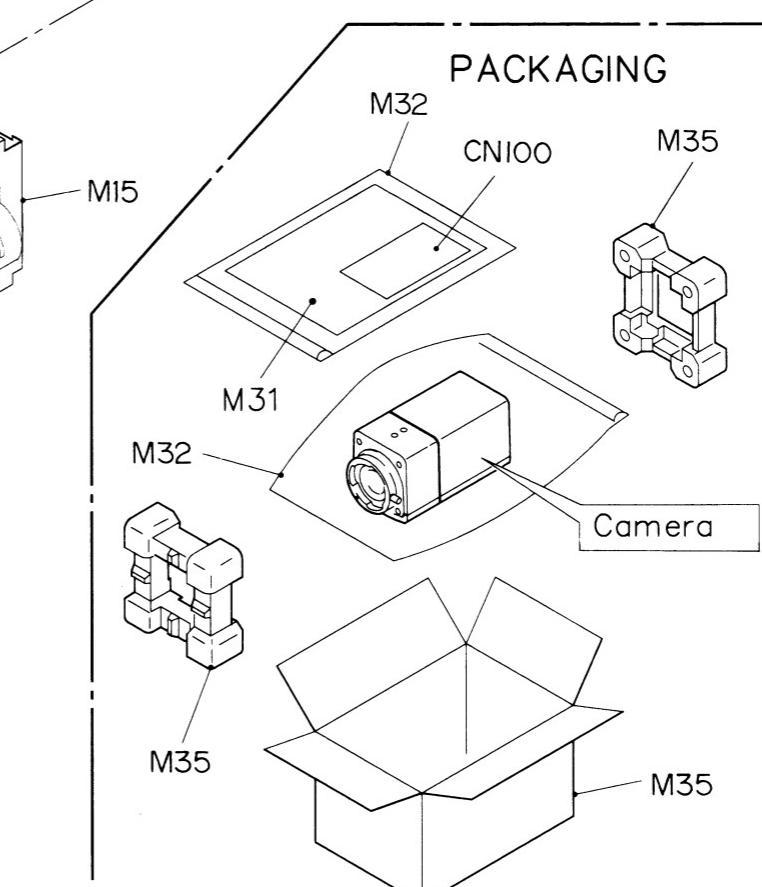
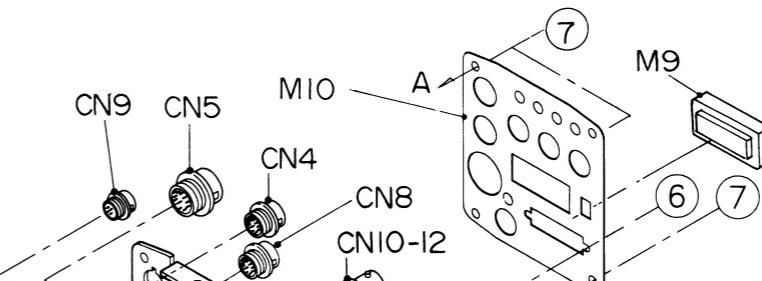
○ Numbers shows screws, washers, nuts and etc.

Screws	Description
① XSN3+6FN	Binding Head Screws
② XYN3+C8FX	Machine Screw and Washer Ass'y
③ XSB26+4FX	Binding Head Screws
④ XVG3F8FZ	Machine Black Screws
⑤ XSS2+4FX	Flush Head Machine Black Screws
⑥ XVG3F6FN	Machine Screws
⑦ XSB26+4FX	Binding Head Screws
⑧ XWC3BFN	External Toothed Lock Washers



○ Numbers shows screws, washers, nuts and etc.

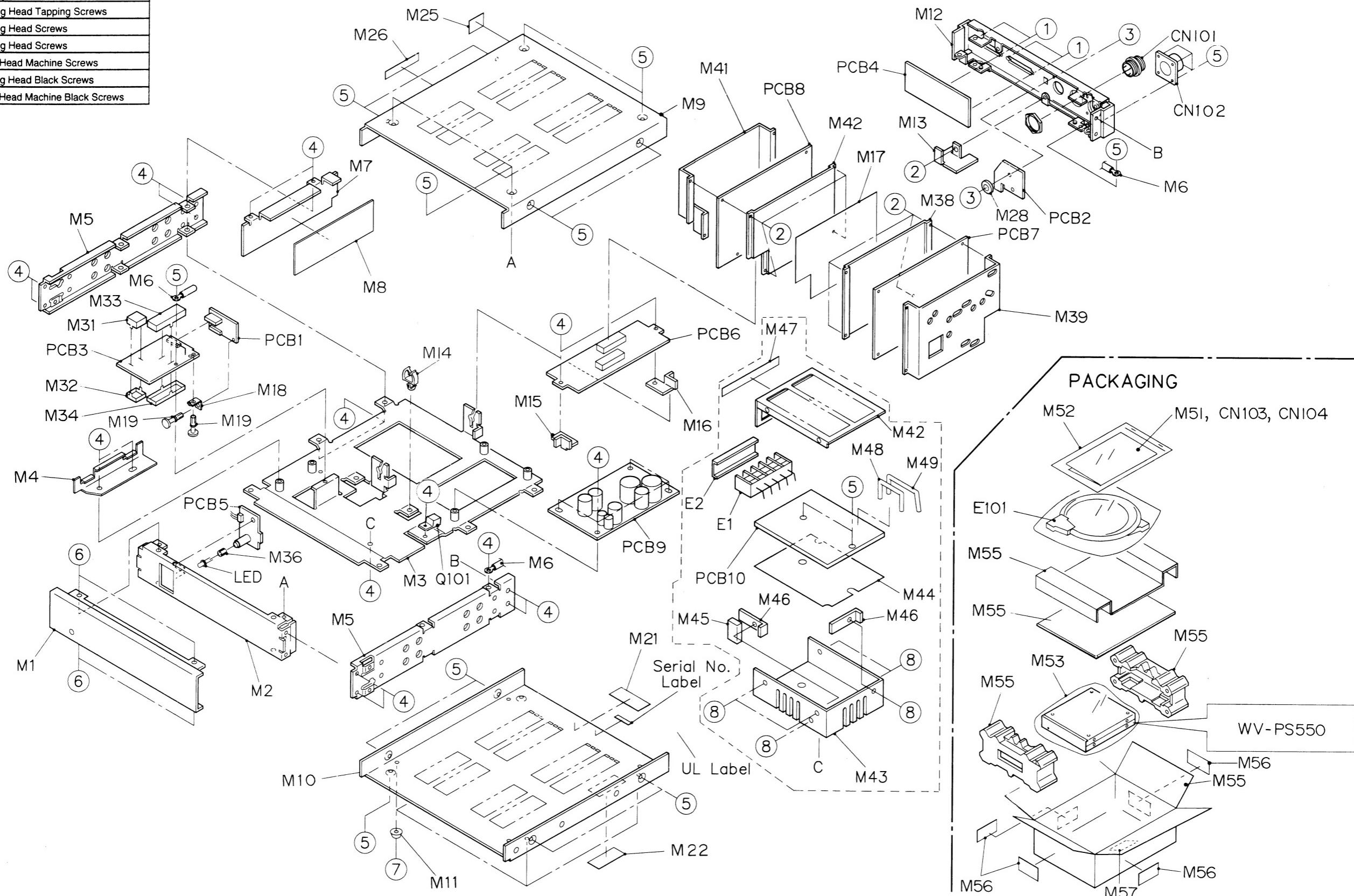
Screws	Description
① XSB25+6FN	Binding Head Screws
② XSB26+4FX	Binding Head Screws
③ XTB3+6BFN	Binding Head Tail
④ XSB3+6FX	Binding Head Screws
⑤ XSB3+6FN	Binding Head Screws
⑥ XSS26+6FN	Flush Head Machine Black Screws
⑦ XSB3+12FXK	Binding Head Screws
⑧ XSS3+6FXK	Flush Head Machine Black Screws



EXPLODED VIEW (WV-PS550)

○ Numbers shows screws, washers, nuts and etc.

Screws	Description
① XSB25+6FN	Binding Head Screws
② XSB26+4FX	Binding Head Screws
③ XTB3+6BFN	Binding Head Tapping Screws
④ XSB3+6FX	Binding Head Screws
⑤ XSB3+6FN	Binding Head Screws
⑥ XSS26+6FN	Flush Head Machine Screws
⑦ XSB3+12FXK	Binding Head Black Screws
⑧ XSS3+6FXK	Flush Head Machine Black Screws



REPLACEMENT PARTS LIST

Important Notice

1. Components identified by " Δ " mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.
2. RTL : Retention Time Limited.

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
COLOUR VIDEO CAMERA WV-E550E					
MISCELLANEOUS					
M1	YVV0EA0284AN	Bayonet Mont Assy	PCB1 (RTL)	YVVKBE550E1A	Printed Circuit Board Assy
M2	YVV2KA0862B2	Optical Chassis	IC3	MN5197	IC
M3	YVV0EA0307AN	Optical Head Assy	IC7	YWTC7W04FUL	IC
M4	YVV5KA1330B1	Bottom Case	IC8	YWTC7S08F	IC
M5	YVV5KA1329A1	Upper Case	IC9	YWCXD1265R	IC
M6	CAP410A	Body Cap	IC11	TC74HC4050AF	IC
M7	YVV2CA0385B2	Hold Plate	IC12	UPD74HC4049G	IC
M9	YWPCE28CU	Connector Cap	IC15	TC74HC4050AF	IC
M10	YVV6GA0259A3	Rear Panel	IC16	YWTC7S86F	IC
M11 Δ	YVV7QA3240A4	Main Label	IC17	YWTC7S32F	IC
M12	YVV7DA0387A3	Heat sink	IC18	YWTC7W74F	IC
M13	YVV4JA0483A4	Spring Plate	IC19	YWTC7WU04F	IC
M20	YVV2FA0657A4	Rubber Cushion for Heat Sink	Q1	2SK662-PQR	FET
			Q2-4	2SB1218A-QR	Transistor
			Q5	2SC4176	Transistor
			Q6	2SA1610	Transistor
			Q7-9	2SD1819-QRS	Transistor
			D1,2	MA372	Diode
			D3	MA121	Diode
			D4,5	MA143	Diode
			D6	MA121	Diode
			D7,8	MA141K	Diode
			R1	ERJ3GEY0R00	Carbon
			R2	ERJ3GEYJ102	Carbon
			R3	ERJ3GEYJ752	Carbon
			R4	ERJ3GEYJ302	Carbon
			R5,6	ERJ3GEYJ103	Carbon
			R8	ERJ3GEYJ101	Carbon
			R26,52	ERJ3GEY0R00	Carbon
			R65	ERJ3GEYJ100	Carbon
			R69	ERJ3GEY0R00	Carbon
			R71	ERJ3GEYJ105	Carbon
			R75	ERJ3GEY0R00	Carbon
			R81-83	ERJ3GEYJ470	Carbon
			R84	ERJ3GEY0R00	Carbon
			R87-89	ERJ3GEYJ470	Carbon
			R92-94	ERJ3GEYJ470	Carbon
			R95-97	ERJ3GEYJ103	Carbon
			R98-100	ERJ3GEYJ104	Carbon
			R101	ERJ3GEYJ100	Carbon
			R105	ERJ3GEY0R00	Carbon

REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
DIGITAL PROCESS BOARD							
R106	YWR0816R393D	Metal	39K ohms 1/16W	PCB2 (RTL)	YWVKCE550E1A	Printed Circuit Board Assy	
R107-109	ERJ3GEYJ104	Carbon	100K ohms 1/16W	IC1	YWVC5776	LSI	
R133,143	ERJ3GEYJ470	Carbon	47 ohms 1/16W	IC2	YWVC5727	LSI	
R150,151	ERJ3GEYJ470	Carbon	47 ohms 1/16W	IC3	YWVC5777A	LSI	
R152,153	ERJ3GEY0R00	Carbon	0 ohms 1/16W	IC4	YWVC5778	LSI	
R154	YWR0816P102D	Metal	1K ohms 1/16W	IC5	NJM2904M	IC	
R155	YWR0816P103D	Metal	10K ohms 1/16W	IC6-8	YWCD1175AM	IC	
R156	YWR0816P271D	Metal	270 ohms 1/16W	IC9	YWTC74AC04AF	IC	
R157	YWR0816P331D	Metal	330 ohms 1/16W	IC10	YWHD74AC164F	IC	
R158	ERJ3GEY0R00	Carbon	0 ohms 1/16W	IC11	YWTC74AC00F	IC	
R159	YWR0816P201D	Metal	200 ohms 1/16W	IC12	YWTC74AC08F	IC	
R160	ERJ3GEY0R00	Carbon	0 ohms 1/16W	IC14	YWTC7S32F	IC	
R162	ERJ3GEYJ102	Carbon	1K ohms 1/16W	IC15	YWTC74AC74F	IC	
R163	ERJ3GEYJ151	Carbon	150 ohms 1/16W	IC16	YWTC74AC08F	IC	
R164	ERJ3GEYJ103	Carbon	10K ohms 1/16W	IC17-20	YWMN6557AS	IC	
R165	ERJ3GEYJ331	Carbon	330 ohms 1/16W	IC21	YWTC4S66FR	IC	
R166	ERJ3GEYJ105	Carbon	1M ohms 1/16W	IC22	YWTC7S08F	IC	
VR1-3	EVM7JGA30B15	Variable Resistor	100K ohms	Q1	2SB956-RS	Transistor	
VR4-6	EVM7JSW30B25	Variable Resistor	200K ohms	Q2	2SD1819-QRS	Transistor	
C1	SK21C225KRA	Electrolytic	2.2 µF 16V	Q3	2SB1073-QR	Transistor	
C2	YW5F104Z2VB	Ceramic	0.1 µF	Q4	2SD1819-QRS	Transistor	
C3	YW5CH221J5VB	Ceramic	220 pF	R1,2	YWR0816P103D	Metal	10K ohms 1/16W
C4	YW5F104Z2VB	Ceramic	0.1 µF	R3	YWR0816P163D	Metal	16K ohms 1/16W
C5	YW5CH221J5VB	Ceramic	220 pF	R4	ERJ3GEYJ102	Carbon	1K ohms 1/16W
C8,10	SK21A476KRD0	Electrolytic	47 µF 10V	R5	ERJ3GEYJ330	Carbon	33 ohms 1/16W
C13-15	YW5F104Z2VB	Ceramic	0.1 µF	R6	YWR0816P153D	Metal	15K ohms 1/16W
C16-18	ECEV1CV100	Electrolytic	10 µF 16V	R7,8	YWR0816P103D	Metal	10K ohms 1/16W
C19-21	YW5F104Z2VB	Ceramic	0.1 µF	R9	YWR0816P183D	Metal	18K ohms 1/16W
C22	SK21A476KRD0	Electrolytic	47 µF 10V	R10	ERJ3GEY0R00	Carbon	0 ohms 1/16W
C23-25	ECEV1EV100	Electrolytic	10 µF 25V	R11	YWR0816P163D	Metal	16K ohms 1/16W
C44	YW5X102K5VB	Ceramic	1000 pF	R12	ERJ3GEYJ102	Carbon	1K ohms 1/16W
C45	SK21A476KRD0	Electrolytic	47 µF 10V	R13-17	ERJ3GEYJ100	Carbon	10 ohms 1/16W
C46	YW5CH100J5VB	Ceramic	10 pF	R18	YWR0816P821D	Metal	820 ohms 1/16W
C47	YW5F104Z2VB	Ceramic	0.1 µF	R19,22	ERJ3GEY0R00	Carbon	0 ohms 1/16W
C48	YW5CH330J5VB	Ceramic	33 pF	R27	ERJ3GEYJ103	Carbon	10K ohms 1/16W
C49	YW5F104Z2VB	Ceramic	0.1 µF	R28	ERJ3GEYJ221	Carbon	220 ohms 1/16W
C50,52	YW5CH220J5VB	Ceramic	22 pF	R29	ERJ3GEYJ102	Carbon	1K ohms 1/16W
C54,55	YW5F104Z2VB	Ceramic	0.1 µF	R30	ERJ3GEYJ331	Carbon	330 ohms 1/16W
C56,57	YW5CH220J5VB	Ceramic	22 pF	R31	ERJ3GEYJ471	Carbon	470 ohms 1/16W
C60	YW5X102K5VB	Ceramic	1000 pF	R56	ERJ3GEYJ100	Carbon	10 ohms 1/16W
L1	EIC4EJ010E	Coil	1 µH	R57	ERJ3GEY0R00	Carbon	0 ohms 1/16W
L2	YNWL32150J	Coil	15 µH	R58,59	ERJ3GEYJ100	Carbon	10 ohms 1/16W
CN1	YW522052690	26-pin Connector		R61,67	ERJ3GEYJ100	Carbon	10 ohms 1/16W
CN2	YW51756394	24-pin Connector		R69,70	ERJ3GEYJ100	Carbon	10 ohms 1/16W
CN3	YW41756392	12-pin Connector		R73-75	ERJ3GEYJ100	Carbon	10 ohms 1/16W
TP1-8	YWRCT2125TPV	Test Point		R80	ERJ3GEYJ100	Carbon	10 ohms 1/16W
				R83	ERJ3GEY0R00	Carbon	0 ohms 1/16W
				R84	ERJ3GEYJ100	Carbon	10 ohms 1/16W
				R91-93	ERJ3GEYJ101	Carbon	100 ohms 1/16W
				R98	ERJ3GEYJ680	Carbon	68 ohms 1/16W
				R201	YWR0816Q750D	Metal	75 ohms 1/16W

REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
R204	YWR0816P681D	Metal	680 ohms 1/16W	C407	YW5F104Z2VB	Ceramic	0.1 µF
R226	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C409	SK31C335KRA	Electrolytic	3.3 µF 16V
R301	YWR0816Q750D	Metal	75 ohms 1/16W	C501	YW5F104Z2VB	Ceramic	0.1 µF
R304	YWR0816P681D	Metal	680 ohms 1/16W	C502	SK21A476KRD0	Electrolytic	47 µF 10V
R326	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C503	YWSK1C105KRA	Electrolytic	1 µF 16V
R401	YWR0816Q750D	Metal	75 ohms 1/16W	C504,505	YW5F104Z2VB	Ceramic	0.1 µF
R402	YWR0816P202D	Metal	2K ohms 1/16W	C506	SK21C336KRD0	Electrolytic	33 µF 16V
R403	YWR0816P302D	Metal	3K ohms 1/16W	C507	YW5F104Z2VB	Ceramic	0.1 µF
R404	YWR0816P681D	Metal	680 ohms 1/16W	C508	SK21C336KRD0	Electrolytic	33 µF 16V
R405	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W	C509	YW5CH330J5VB	Ceramic	33 pF
R406	ERJ3GEYJ105	Carbon	1M ohms 1/16W	CT1-3	TZBX4R500BAT	Trimmer Capacitor	
R426	ERJ3GEY0R00	Carbon	0 ohms 1/16W	L6,7	YWBLM21B03PB	Coil	
R501	YWR0816Q750D	Metal	75 ohms 1/16W	CF201,301	YWHF50ACB32T	Filter	
R504	YWR0816P681D	Metal	680 ohms 1/16W	CF401,501	YWHF50ACB32T	Filter	
R526	ERJ3GEY0R00	Carbon	0 ohms 1/16W	CN1,2	YW51756394	Connector	
C1	YW5F104Z2VB	Ceramic	0.1 µF	CN3-5	YW41756386	Connector	
C2	ECEV0JV220	Electrolytic	22 µF 6.3V	TP1-10	YWRCT2125TPV	Test-Pin	
C3	YW5X103K2VB	Ceramic	0.01 µF	M15	YWW5KA1337A2	Case for Heat Sink	
C4	SK21C336KRD0	Electrolytic	33 µF 16V	M16	YWW2FA0599A4	Cushion A for Heat Sink	
C5	YW5F104Z2VB	Ceramic	0.1 µF	M17	YWW2FA0600A4	Cushion B for Heat Sink	
C6	ECEV0JV220	Electrolytic	22 µF 6.3V	SYSTEM BOARD			
C7	YW5X103K2VB	Ceramic	0.01 µF	PCB3 (RTL)	YWVKCE550P2A	Printed Circuit Board Assy	
C8,9	SK21C336KRD0	Electrolytic	33 µF 16V	IC1	YWL7A0425	LSI	
C10,11	YW5F104Z2VB	Ceramic	0.1 µF	IC2	YWMN18885	LSI	
C12	YW5CH681J2VB	Ceramic	680 pF	IC3	YWM27C512F52	IC	
C13	YW5CH220J5VB	Ceramic	22 pF	IC4	43256AGU10L	IC	
C15	YW5F104Z2VB	Ceramic	0.1 µF	IC5,6	YWUPD4081BG	IC	
C16	YW5CH100DSVB	Ceramic	10 pF	IC7	YWUPD4011BG	IC	
C17,19	YW5F104Z2VB	Ceramic	0.1 µF	IC8	YWUPD4081BG	IC	
C21-32	YW5F104Z2VB	Ceramic	0.1 µF	IC9	NJM2904M	IC	
C34,35	YW5F104Z2VB	Ceramic	0.1 µF	IC10	YWM51957BFP	IC	
C36	SK21C336KRD0	Electrolytic	33 µF 16V	IC12	YWM62352GP	IC	
C37	YW5F104Z2VB	Ceramic	0.1 µF	IC13	YWUPC4064G2	IC	
C38	SK21C336KRD0	Electrolytic	33 µF 16V	IC14	YWUPD4081BG	IC	
C39-45	YW5F104Z2VB	Ceramic	0.1 µF	IC15	YWM51957BFP	IC	
C46	SK21C336KRD0	Electrolytic	33 µF 16V	IC16	UPD74HC4066G	IC	
C47-50	YW5F104Z2VB	Ceramic	0.1 µF	IC17	YWUPD6450601	IC	
C51	SK21C336KRD0	Electrolytic	33 µF 16V	IC18	YWRCT450315B	IC	
C52	YW5F224Z1VB	Ceramic	0.22 µF	IC19	NJM2902M	IC	
C61-63	YW5CH330J5VB	Ceramic	33 pF	Q1,2	2SD1819-QRS	Transistor	
C201	YW5F104Z2VB	Ceramic	0.1 µF	Q9	2SB1219-QRS	Transistor	
C202	SK21A476KRD0	Electrolytic	47 µF 10V	Q10-12	2SD1819-QRS	Transistor	
C203	YWSK1C105KRA	Electrolytic	1 µF 16V	Q13	2SB1218-QRS	Transistor	
C204,205	YW5F104Z2VB	Ceramic	0.1 µF	Q14	2SB1219-QRS	Transistor	
C206	SK21C336KRD0	Electrolytic	33 µF 16V	Q15	2SD1819-QRS	Transistor	
C207	YW5F104Z2VB	Ceramic	0.1 µF	Q16	2SB766A-QR	Transistor	
C208	SK21C336KRD0	Electrolytic	33 µF 16V	Q17	2SD1819-QRS	Transistor	
C301	YW5F104Z2VB	Ceramic	0.1 µF				
C302	SK21A476KRD0	Electrolytic	47 µF 10V				
C303	YWSK1C105KRA	Electrolytic	1 µF 16V				
C304,305	YW5F104Z2VB	Ceramic	0.1 µF				
C307,401	YW5F104Z2VB	Ceramic	0.1 µF				
C402	SK21A476KRD0	Electrolytic	47 µF 10V				
C403	YWSK1C105KRA	Electrolytic	1 µF 16V				
C404,405	YW5F104Z2VB	Ceramic	0.1 µF				

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION	
Q18	2SD874A-RS	Transistor	R173	YWR0816P123D	Metal	12K ohms 1/16W
Q19	2SB1218-QRS	Transistor	R174	ERJ3GEYJ470	Carbon	47 ohms 1/16W
Q20	2SB766A-QR	Transistor	R175	YWR0816P472D	Metal	4.7K ohms 1/16W
Q21	2SD1819-QRS	Transistor	R176,177	YWR0816P332D	Metal	3.3K ohms 1/16W
D1,3	MA141K	Diode	R178	ERJ3GEYJ470	Carbon	47 ohms 1/16W
D4-6	MA141K	Diode	R179	ERJ3GEYJ473	Carbon	47K ohms 1/16W
D7	MA143	Diode	R180	ERJ3GEYJ102	Carbon	1K ohms 1/16W
D8-10	MA141K	Diode	R181	ERJ3GEYJ473	Carbon	47K ohms 1/16W
R5,6	ERJ3GEYJ470	Carbon	R182	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W
R7,8	ERJ3GEYJ102	Carbon	R183	YWR0816P682D	Metal	6.8K ohms 1/16W
R9,10	ERJ3GEYJ683	Carbon	R184	YWR0816P123D	Metal	12K ohms 1/16W
R11,12	ERJ3GEYJ224	Carbon	R185	ERJ3GEYJ473	Carbon	47K ohms 1/16W
R13	ERJ3GEYJ105	Carbon	R186	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W
R14,15	ERJ3GEYJ101	Carbon	R187	ERJ3GEYJ224	Carbon	220K ohms 1/16W
R16	ERJ3GEYJ473	Carbon	R188-191	ERJ3GEYJ473	Carbon	47K ohms 1/16W
R17	ERJ3GEYJ103	Carbon	R192	ERJ3GEYJ122	Carbon	1.2K ohms 1/16W
R18	ERJ3GEYJ102	Carbon	R193	ERJ3GEYJ273	Carbon	27K ohms 1/16W
R19	ERJ3GEYJ473	Carbon	R194	ERJ3GEYJ153	Carbon	15K ohms 1/16W
R20-46	ERJ3GEYJ101	Carbon	R195	ERJ3GEYJ912	Carbon	9.1K ohms 1/16W
R47-63	ERJ3GEYJ102	Carbon	R196	ERJ3GEYJ183	Carbon	18K ohms 1/16W
R64-66	ERJ3GEYJ473	Carbon	R197	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R67	YWR0816P103D	Metal	R198	ERJ3GEYJ105	Carbon	1M ohms 1/16W
R68	YWR0816P303D	Metal	R199	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W
R69	YWR0816P103D	Metal	R200	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W
R70-85	ERJ3GEYJ101	Carbon	R201	ERJ3GEYJ393	Carbon	39K ohms 1/16W
R86	ERJ3GEYJ102	Carbon	R202	ERJ3GEYJ513	Carbon	51K ohms 1/16W
R87	ERJ3GEYJ473	Carbon	R203	ERJ3GEYJ473	Carbon	47K ohms 1/16W
R88-91	ERJ3GEYJ470	Carbon	R204,205	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W
R92,94	ERJ3GEY0R00	Carbon	R206	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R95-98	ERJ3GEYJ102	Carbon	R208,209	ERJ3GEY0R00	Carbon	0 ohms 1/16W
R99	ERJ3GEYJ473	Carbon	R211,212	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R100-121	ERJ3GEYJ102	Carbon	R213	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R122-129	ERJ3GEYJ101	Carbon	R214	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R130-134	ERJ3GEYJ102	Carbon	R215	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R135	ERJ3GEYJ472	Carbon	R216	YWR0816P133D	Metal	13K ohms 1/16W
R137	ERJ3GEYJ473	Carbon	R217	YWR0816R393D	Metal	39K ohms 1/16W
R138	ERJ3GEYJ103	Carbon	R218	YWR0816P153D	Metal	15K ohms 1/16W
R140	ERJ3GEYJ472	Carbon	R219	YWR0816R473D	Metal	47K ohms 1/16W
R141	YWR0816P472D	Metal	R220	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R142	YWR0816P123D	Metal	R221	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R151-154	ERJ3GEYJ101	Carbon	R222	YWR0816P133D	Metal	13K ohms 1/16W
R155	YWR0816R433D	Metal	R223	YWR0816R393D	Metal	39K ohms 1/16W
R156	YWR0816P272D	Metal	R224	YWR0816P153D	Metal	15K ohms 1/16W
R157	YWR0816R433D	Metal	R225	YWR0816R473D	Metal	47K ohms 1/16W
R158	YWR0816P272D	Metal	R226	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R159	YWR0816R433D	Metal	R227	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R160	YWR0816P272D	Metal	R228	YWR0816P133D	Metal	13K ohms 1/16W
R161,162	ERJ3GEYJ101	Carbon	R229	YWR0816R393D	Metal	39K ohms 1/16W
R164,165	ERJ3GEY0R00	Carbon	R230	YWR0816P153D	Metal	15K ohms 1/16W
R167	YWR0816P163D	Metal	R231	YWR0816R473D	Metal	47K ohms 1/16W
R168	YWR0816P202D	Metal	C1	YW5F104Z2VB	Ceramic	0.1 μ F
R169	YWR0816P123D	Metal	C2	SK31C335KRA	Electrolytic	3.3 μ F 16V
R170	ERJ3GEYJ470	Carbon	C3	YW5F104Z2VB	Ceramic	0.1 μ F
R171	YWR0816P163D	Metal	C4-7	YW5CH151J5VB	Ceramic	150 pF
R172	YWR0816P202D	Metal	C8,9	YW5F104Z2VB	Ceramic	0.1 μ F

REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
PREAMP / ENCODER BOARD							
C10	SK21C475KRB	Electrolytic	4.7 μ F 16V	PCB4 (RTL)	YWVKBE550E3A	Printed Circuit Board Assy	
C11-14	YW5F104Z2VB	Ceramic	0.1 μ F	IC1	NJM2904M	IC	
C15	YWSK1C105KRA	Electrolytic	1 μ F 16V	IC2	UPD74HC4049G	IC	
C16	YWSK1C106KRC	Electrolytic	10 μ F 16V	IC3	YWM51272FP	IC	
C17	YWSK1C105KRA	Electrolytic	1 μ F 16V	IC4	YWUPD4050BG	IC	
C18	YW5F104Z2VB	Ceramic	0.1 μ F	IC5	YWUPD4053BG	IC	
C19	YW5CH151J5VB	Ceramic	150 pF	IC6	YWCXA1229M	IC	
C22	YWSK1C106KRC	Electrolytic	10 μ F 16V	IC8-10	YWUPD4052BG	IC	
C24-29	YW5F104Z2VB	Ceramic	0.1 μ F	IC11	YWTC4W53FL	IC	
C30	YWSK1V104KRA	Electrolytic	0.1 μ F 35V	IC401	YWUPC4062G2	IC	
C31-33	YW5F104Z2VB	Ceramic	0.1 μ F	Q1	2SB766-RS	Transistor	
C36	YWSK1V105KRB	Electrolytic	1 μ F 35V	Q3	2SD1819-QRS	Transistor	
C37	SK21C475KRB	Electrolytic	4.7 μ F 16V	Q4	2SB1218-QRS	Transistor	
C39,41	YW5F104Z2VB	Ceramic	0.1 μ F	Q5	2SD1819-QRS	Transistor	
C43-46	YW5F104Z2VB	Ceramic	0.1 μ F	Q6	2SB1218-QRS	Transistor	
C47	SK21C336KRD0	Electrolytic	33 μ F 16V	Q7	2SD1819-QRS	Transistor	
C48	YW5X102K5VB	Ceramic	1000 pF	Q8	2SA1532-CD	Transistor	
C49	YW5F104Z2VB	Ceramic	0.1 μ F	Q9,11	2SC3931-CD	Transistor	
C50	YW5X223K2VB	Ceramic	0.022 μ F	Q12-18	2SC3931-CD	Transistor	
C51,52	YW5F104Z2VB	Ceramic	0.1 μ F	Q19	XP4601	Transistor	
C53	YW5UJ180J5VB	Ceramic	18 pF	Q20	2SD1820-QRS	Transistor	
C54	YW5UJ120J5VB	Ceramic	12 pF 50V	Q21	2SB1219-QRS	Transistor	
C55	SK20J106KRB	Electrolytic	10 μ F 6.3V	Q22-25	2SD1819-QRS	Transistor	
C56	SK21C225KRA	Electrolytic	2.2 μ F 16V	Q26-28	2SC3931-CD	Transistor	
C57	YW5CH040D5VB	Ceramic	4 pF	Q29	2SA1532-CD	Transistor	
C59	SK20J336KRC	Electrolytic	33 μ F 6.3V	Q30,32	2SC3931-CD	Transistor	
C60	YW5F104Z2VB	Ceramic	0.1 μ F	Q33-35	2SC3931-CD	Transistor	
C61,62	YW5X103K2VB	Ceramic	0.01 μ F	Q36	2SD1819-QRS	Transistor	
C63	SK20J686KRD0	Electrolytic	68 μ F 6.3V	Q42,44	2SC3931-CD	Transistor	
C64	SK1V685KRD0	Electrolytic	6.8 μ F 35V	Q46-49	2SC3931-CD	Transistor	
C65	ECEV0JV220	Electrolytic	22 μ F 6.3V	Q50	XP4601	Transistor	
C66	SK21C336KRD0	Electrolytic	33 μ F 16V	Q51	2SD1820-QRS	Transistor	
C67	ECEV0JV220	Electrolytic	22 μ F 6.3V	Q52	2SB1219-QRS	Transistor	
C68,69	SK21C336KRD0	Electrolytic	33 μ F 16V	Q53-55	2SC3931-CD	Transistor	
C70	ECEV0JV220	Electrolytic	22 μ F 6.3V	Q56	XP4601	Transistor	
CT1	ECRJA010A12	Trimmer Capacitor		Q57	2SD1820-QRS	Transistor	
L1	ELJFA470KF	Coil	47 μ H	Q58	2SB1219-QRS	Transistor	
L2,3	YWNL321R0J	Coil	320 μ H	Q59-61	2SC3931-CD	Transistor	
SW1	YWSKQDPA	Push Switch		Q62	XP4601	Transistor	
X1	YWCSTCS8MT	Oscillator		Q63	2SD1820-QRS	Transistor	
CN1-3	YW51756394	24-pin Connector		Q64	2SB1219-QRS	Transistor	
CN4-6	YW71756436	16-pin Connector		Q65-67	2SC3931-CD	Transistor	
BAT1	BR30321F2	Battery		Q68	XP4601	Transistor	
TP1-6	YWRCT2125TPV	Test- Pin		Q69	2SD1820-QRS	Transistor	
				Q70	2SB1219-QRS	Transistor	
				Q71-73	2SC3931-CD	Transistor	
				Q74	XP4601	Transistor	
				Q75	2SD1820-QRS	Transistor	
				Q76	2SB1219-QRS	Transistor	
				Q77	2SC3931-CD	Transistor	
				Q78-81	2SA1532-CD	Transistor	

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
Q82	2SC3931-CD	Transistor	D9	MA143	Diode
Q83,84	2SA1532-CD	Transistor	R1,2	YWR0816R473D	Metal 47K ohms 1/16W
Q85-87	2SC3931-CD	Transistor	R3	YWR0816P472D	Metal 4.7K ohms 1/16W
Q401	2SA1532-CD	Transistor	R4	YWR0816P512D	Metal 5.1K ohms 1/16W
Q402	2SB766A-QR	Transistor	R5	ERJ3GEYJ101	Carbon 100 ohms 1/16W
Q403	2SD1819-QRS	Transistor	R6	ERJ3GEYJ102	Carbon 1K ohms 1/16W
Q404	2SD874A-RS	Transistor	R7	YWR0816R393D	Metal 39K ohms 1/16W
Q405	2SB1218-QRS	Transistor	R8	YWR0816P303D	Metal 30K ohms 1/16W
Q501	2SA1532-CD	Transistor	R9	YWR0816P101D	Metal 100 ohms 1/16W
Q502	3SK157	FET	R11	ERJ3GEYJ101	Carbon 100 ohms 1/16W
Q503	2SC3931-CD	Transistor	R13	ERJ3GEYJ102	Carbon 1K ohms 1/16W
Q504	2SA1532-CD	Transistor	R14	ERJ3GEYJ472	Carbon 4.7K ohms 1/16W
Q505	3SK157	FET	R15	ERJ3GEYJ392	Carbon 3.9K ohms 1/16W
Q506	2SC3931-CD	Transistor	R16	ERJ3GEYJ103	Carbon 10K ohms 1/16W
Q507,508	2SD1819-QRS	Transistor	R17	ERJ3GEYJ272	Carbon 2.7K ohms 1/16W
Q509,510	2SC3931-CD	Transistor	R18	ERJ3GEYJ102	Carbon 1K ohms 1/16W
Q511-513	2SA1532-CD	Transistor	R19	ERJ3GEYJ562	Carbon 5.6K ohms 1/16W
Q514	2SC3931-CD	Transistor	R20	ERJ3GEYJ182	Carbon 1.8K ohms 1/16W
Q515	2SA1532-CD	Transistor	R21	ERJ3GEYJ221	Carbon 220 ohms 1/16W
Q516,517	2SC3931-CD	Transistor	R22	ERJ3GEYJ392	Carbon 3.9K ohms 1/16W
Q518	2SA1532-CD	Transistor	R23	ERJ3GEYJ103	Carbon 10K ohms 1/16W
Q519	3SK157	FET	R24	ERJ3GEYJ272	Carbon 2.7K ohms 1/16W
Q520	2SC3931-CD	Transistor	R25	ERJ3GEYJ102	Carbon 1K ohms 1/16W
Q601	2SA1532-CD	Transistor	R26	ERJ3GEYJ562	Carbon 5.6K ohms 1/16W
Q602	3SK157	FET	R27	ERJ3GEYJ182	Carbon 1.8K ohms 1/16W
Q603	2SC3931-CD	Transistor	R28-30	ERJ3GEYJ221	Carbon 220 ohms 1/16W
Q604	2SA1532-CD	Transistor	R31	ERJ3GEYJ392	Carbon 3.9K ohms 1/16W
Q605	3SK157	FET	R32	ERJ3GEYJ152	Carbon 1.5K ohms 1/16W
Q606	2SC3931-CD	Transistor	R33	ERJ3GEYJ822	Carbon 8.2K ohms 1/16W
Q607,608	2SD1819-QRS	Transistor	R34	ERJ3GEYJ682	Carbon 6.8K ohms 1/16W
Q609,610	2SC3931-CD	Transistor	R35	ERJ3GEYJ432	Carbon 4.3K ohms 1/16W
Q611-613	2SA1532-CD	Transistor	R36	ERJ3GEYJ242	Carbon 2.4K ohms 1/16W
Q614	2SC3931-CD	Transistor	R39,40	ERJ3GEYJ102	Carbon 1K ohms 1/16W
Q615	2SA1532-CD	Transistor	R41	ERJ3GEYJ332	Carbon 3.3K ohms 1/16W
Q616,617	2SC3931-CD	Transistor	R42	ERJ3GEYJ622	Carbon 6.2K ohms 1/16W
Q618	2SA1532-CD	Transistor	R43	ERJ3GEYJ272	Carbon 2.7K ohms 1/16W
Q619	3SK157	FET	R44	ERJ3GEYJ472	Carbon 4.7K ohms 1/16W
Q620	2SC3931-CD	Transistor	R45	ERJ3GEYJ100	Carbon 10 ohms 1/16W
Q701	2SA1532-CD	Transistor	R46,47	ERJ3GEYJ272	Carbon 2.7K ohms 1/16W
Q702	3SK157	FET	R48	ERJ3GEYJ472	Carbon 4.7K ohms 1/16W
Q703	2SC3931-CD	Transistor	R49	ERJ3GEYJ101	Carbon 100 ohms 1/16W
Q704	2SA1532-CD	Transistor	R50,51	ERJ3GEYJ362	Carbon 3.6K ohms 1/16W
Q705	3SK157	FET	R52	ERJ3GEYJ101	Carbon 100 ohms 1/16W
Q706	2SC3931-CD	Transistor	R54	ERJ3GEYJ332	Carbon 3.3K ohms 1/16W
Q707,708	2SD1819-QRS	Transistor	R55	YWR0816P202D	Metal 2K ohms 1/16W
Q709,710	2SC3931-CD	Transistor	R56	ERJ3GEYJ332	Carbon 3.3K ohms 1/16W
Q711-713	2SA1532-CD	Transistor	R57	YWR0816P222D	Metal 2.2K ohms 1/16W
Q714	2SC3931-CD	Transistor	R58-61	ERJ3GEYJ100	Carbon 10 ohms 1/16W
Q715	2SA1532-CD	Transistor	R62,63	ERJ3GEYJ221	Carbon 220 ohms 1/16W
Q716,717	2SC3931-CD	Transistor	R64	ERJ3GEYJ392	Carbon 3.9K ohms 1/16W
Q718	2SA1532-CD	Transistor	R65-67	ERJ3GEYJ222	Carbon 2.2K ohms 1/16W
Q719	3SK157	FET	R68	ERJ3GEYJ102	Carbon 1K ohms 1/16W
Q720	2SC3931-CD	Transistor	R69,70	ERJ3GEYJ221	Carbon 220 ohms 1/16W
D1,3	MA143	Diode	R71	ERJ3GEYJ332	Carbon 3.3K ohms 1/16W
D5,8	MA143	Diode	R72-74	ERJ3GEYJ222	Carbon 2.2K ohms 1/16W

REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
R75	ERJ3GEYJ152	Carbon	1.5K ohms 1/16W	R202	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W
R76	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W	R203	YWR0816P222D	Metal	2.2K ohms 1/16W
R77-79	ERJ3GEYJ0R00	Carbon	0 ohms 1/16W	R204-207	ERJ3GEYJ100	Carbon	10 ohms 1/16W
R80,81	ERJ3GEYJ223	Carbon	22K ohms 1/16W	R209	ERJ3GEYJ101	Carbon	100 ohms 1/16W
R82,84	YWR0816P103D	Metal	10K ohms 1/16W	R210	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R86,87	ERJ3GEYJ102	Carbon	1K ohms 1/16W	R212	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W
R88	ERJ3GEYJ563	Carbon	56K ohms 1/16W	R213	YWR0816P202D	Metal	2K ohms 1/16W
R89	ERJ3GEYJ272	Carbon	2.7K ohms 1/16W	R214	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W
R90	ERJ3GEYJ471	Carbon	470 ohms 1/16W	R215	YWR0816P222D	Metal	2.2K ohms 1/16W
R91	ERJ3GEYJ272	Carbon	2.7K ohms 1/16W	R216-219	ERJ3GEYJ100	Carbon	10 ohms 1/16W
R92	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W	R221	ERJ3GEYJ101	Carbon	100 ohms 1/16W
R93	ERJ3GEYJ272	Carbon	2.7K ohms 1/16W	R222	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R94	ERJ3GEYJ561	Carbon	560 ohms 1/16W	R224	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W
R95,96	ERJ3GEYJ272	Carbon	2.7K ohms 1/16W	R225	YWR0816P202D	Metal	2K ohms 1/16W
R97,98	ERJ3GEYJ221	Carbon	220 ohms 1/16W	R226	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W
R99	ERJ3GEYJ392	Carbon	3.9K ohms 1/16W	R227	YWR0816P222D	Metal	2.2K ohms 1/16W
R100	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W	R228-231	ERJ3GEYJ100	Carbon	10 ohms 1/16W
R101	ERJ3GEYJ103	Carbon	10K ohms 1/16W	R232	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R102	ERJ3GEYJ682	Carbon	6.8K ohms 1/16W	R233	ERJ3GEYJ152	Carbon	1.5K ohms 1/16W
R103	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W	R234,235	ERJ3GEYJ682	Carbon	6.8K ohms 1/16W
R104	ERJ3GEYJ242	Carbon	2.4K ohms 1/16W	R236	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W
R105	ERJ3GEYJ101	Carbon	100 ohms 1/16W	R237	ERJ3GEYJ682	Carbon	6.8K ohms 1/16W
R107	ERJ3GEYJ152	Carbon	1.5K ohms 1/16W	R238,239	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W
R108	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W	R240	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R109	ERJ3GEYJ152	Carbon	1.5K ohms 1/16W	R241	ERJ3GEYJ101	Carbon	100 ohms 1/16W
R110	ERJ3GEYJ101	Carbon	100 ohms 1/16W	R242	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R112	ERJ3GEYJ152	Carbon	1.5K ohms 1/16W	R243	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R113	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W	R244	ERJ3GEYJ101	Carbon	100 ohms 1/16W
R114	ERJ3GEYJ152	Carbon	1.5K ohms 1/16W	R245	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R115	ERJ3GEYJ101	Carbon	100 ohms 1/16W	R246	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R117-119	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W	R247	ERJ3GEYJ101	Carbon	100 ohms 1/16W
R120	ERJ3GEYJ182	Carbon	1.8K ohms 1/16W	R248	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R121,122	ERJ3GEYJ221	Carbon	220 ohms 1/16W	R249	ERJ3GEYJ221	Carbon	220 ohms 1/16W
R123	ERJ3GEYJ102	Carbon	1K ohms 1/16W	R250	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W
R127	ERJ3GEYJ333	Carbon	33K ohms 1/16W	R251	ERJ3GEYJ221	Carbon	220 ohms 1/16W
R170	ERJ3GEYJ0R00	Carbon	0 ohms 1/16W	R252	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W
R172	YWR0816P273D	Metal	27K ohms 1/16W	R253,254	YWR0816P102D	Metal	1K ohms 1/16W
R173	ERJ3GEYJ101	Carbon	100 ohms 1/16W	R255	ERJ3GEYJ682	Carbon	6.8K ohms 1/16W
R174	ERJ3GEYJ103	Carbon	10K ohms 1/16W	R256	ERJ3GEYJ101	Carbon	100 ohms 1/16W
R176	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W	R257	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W
R177	YWR0816P202D	Metal	2K ohms 1/16W	R258	ERJ3GEYJ101	Carbon	100 ohms 1/16W
R178	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W	R259	ERJ3GEYJ0R00	Carbon	0 ohms 1/16W
R179	YWR0816P222D	Metal	2.2K ohms 1/16W	R260	YWR0816P223D	Metal	22K ohms 1/16W
R180-183	ERJ3GEYJ100	Carbon	10 ohms 1/16W	R261	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W
R185	ERJ3GEYJ101	Carbon	100 ohms 1/16W	R262,263	ERJ3GEYJ682	Carbon	6.8K ohms 1/16W
R187	ERJ3GEYJ103	Carbon	10K ohms 1/16W	R264	ERJ3GEYJ101	Carbon	100 ohms 1/16W
R188	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W	R265	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W
R189	YWR0816P202D	Metal	2K ohms 1/16W	R266	ERJ3GEYJ0R00	Carbon	0 ohms 1/16W
R190	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W	R267	YWR0816P223D	Metal	22K ohms 1/16W
R191	YWR0816P222D	Metal	2.2K ohms 1/16W	R268	ERJ3GEYJ682	Carbon	6.8K ohms 1/16W
R192-195	ERJ3GEYJ100	Carbon	10 ohms 1/16W	R269,270	ERJ3GEYJ104	Carbon	100K ohms 1/16W
R197	ERJ3GEYJ101	Carbon	100 ohms 1/16W	R271	ERJ3GEYJ101	Carbon	100 ohms 1/16W
R198	ERJ3GEYJ103	Carbon	10K ohms 1/16W	R272	ERJ3GEYJ122	Carbon	1.2K ohms 1/16W
R200	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W	R275	ERJ3GEYJ0R00	Carbon	0 ohms 1/16W
R201	YWR0816P202D	Metal	2K ohms 1/16W	R275	ERJ3GEYJ0R00	Carbon	0 ohms 1/16W

REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
R401	ERJ3GEYJ153	Carbon	15K ohms 1/16W	R602	ERJ3GEYJ101	Carbon	100 ohms 1/16W
R402	ERJ3GEYJ153	Carbon	15K ohms 1/16W	R603	ERJ3GEYJ242	Carbon	2.4K ohms 1/16W
R403	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W	R604	ERJ3GEY0R00	Carbon	0 ohms 1/16W
R404	ERJ3GEYJ331	Carbon	330 ohms 1/16W	R605,606	ERJ3GEYJ153	Carbon	15K ohms 1/16W
R405	ERJ3GEYJ102	Carbon	1K ohms 1/16W	R607	ERJ3GEY0R00	Carbon	0 ohms 1/16W
R406	YWR0816P912D	Metal	9.1K ohms 1/16W	R608	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W
R407	YWR0816P123D	Metal	12K ohms 1/16W	R609	ERJ3GEYJ153	Carbon	15K ohms 1/16W
R408	YWR0816P103D	Metal	10K ohms 1/16W	R610	ERJ3GEYJ303	Carbon	30K ohms 1/16W
R409	YWR0816P103D	Metal	10K ohms 1/16W	R611	ERJ3GEYJ220	Carbon	22 ohms 1/16W
R410	ERJ3GEYJ331	Carbon	330 ohms 1/16W	R612	ERJ3GEYJ153	Carbon	15K ohms 1/16W
R411	ERJ3GEYJ102	Carbon	1K ohms 1/16W	R613	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W
R412	YWR0816P912D	Metal	9.1K ohms 1/16W	R614	ERJ3GEYJ330	Carbon	33 ohms 1/16W
R413	YWR0816P123D	Metal	12K ohms 1/16W	R615	ERJ3GEYJ153	Carbon	15K ohms 1/16W
R414	YWR0816P103D	Metal	10K ohms 1/16W	R616	ERJ3GEYJ221	Carbon	220 ohms 1/16W
R415	YWR0816P103D	Metal	10K ohms 1/16W	R617	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R501	ERJ3GEYJ241	Carbon	240 ohms 1/16W	R618	ERJ3GEYJ155	Carbon	1M ohms 1/16W
R502	ERJ3GEYJ101	Carbon	100 ohms 1/16W	R619	ERJ3GEYJ302	Carbon	3K ohms 1/16W
R503	ERJ3GEYJ242	Carbon	2.4K ohms 1/16W	R620	ERJ3GEYJ271	Carbon	270 ohms 1/16W
R504	ERJ3GEY0R00	Carbon	0 ohms 1/16W	R621	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R505,506	ERJ3GEYJ153	Carbon	15K ohms 1/16W	R622	ERJ3GEYJ752	Carbon	7.5K ohms 1/16W
R507	ERJ3GEY0R00	Carbon	0 ohms 1/16W	R623	ERJ3GEYJ561	Carbon	560 ohms 1/16W
R508	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W	R624	ERJ3GEYJ153	Carbon	15K ohms 1/16W
R509	ERJ3GEYJ153	Carbon	15K ohms 1/16W	R625	ERJ3GEY0R00	Carbon	0 ohms 1/16W
R510	ERJ3GEYJ303	Carbon	30K ohms 1/16W	R626	ERJ3GEYJ562	Carbon	5.6K ohms 1/16W
R511	ERJ3GEYJ220	Carbon	22 ohms 1/16W	R627	ERJ3GEYJ751	Carbon	750 ohms 1/16W
R512	ERJ3GEYJ153	Carbon	15K ohms 1/16W	R628	ERJ3GEYJ752	Carbon	7.5K ohms 1/16W
R513	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W	R629	ERJ3GEYJ562	Carbon	5.6K ohms 1/16W
R514	ERJ3GEYJ330	Carbon	33 ohms 1/16W	R630	ERJ3GEYJ152	Carbon	1.5K ohms 1/16W
R515	ERJ3GEYJ153	Carbon	15K ohms 1/16W	R631,632	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R516	ERJ3GEYJ151	Carbon	150 ohms 1/16W	R633	ERJ3GEYJ822	Carbon	8.2K ohms 1/16W
R517	ERJ3GEYJ102	Carbon	1K ohms 1/16W	R634	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W
R518	ERJ3GEYJ155	Carbon	1.5M ohms 1/16W	R635,636	ERJ3GEYJ101	Carbon	100 ohms 1/16W
R519	ERJ3GEYJ302	Carbon	3K ohms 1/16W	R637	ERJ3GEYJ153	Carbon	15K ohms 1/16W
R520	ERJ3GEYJ221	Carbon	220 ohms 1/16W	R638	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W
R521	ERJ3GEYJ102	Carbon	1K ohms 1/16W	R639	ERJ3GEYJ153	Carbon	15K ohms 1/16W
R522	ERJ3GEYJ752	Carbon	7.5K ohms 1/16W	R640	ERJ3GEYJ473	Carbon	47K ohms 1/16W
R523	ERJ3GEYJ561	Carbon	560 ohms 1/16W	R641	ERJ3GEYJ330	Carbon	33 ohms 1/16W
R524	ERJ3GEYJ153	Carbon	15K ohms 1/16W	R642	ERJ3GEYJ153	Carbon	15K ohms 1/16W
R525	ERJ3GEY0R00	Carbon	0 ohms 1/16W	R701	ERJ3GEYJ241	Carbon	240 ohms 1/16W
R526	ERJ3GEYJ562	Carbon	5.6K ohms 1/16W	R702	ERJ3GEYJ101	Carbon	100 ohms 1/16W
R527	ERJ3GEYJ751	Carbon	750 ohms 1/16W	R703	ERJ3GEYJ242	Carbon	2.4K ohms 1/16W
R528	ERJ3GEYJ752	Carbon	7.5K ohms 1/16W	R704	ERJ3GEY0R00	Carbon	0 ohms 1/16W
R529	ERJ3GEYJ562	Carbon	5.6K ohms 1/16W	R705,706	ERJ3GEYJ153	Carbon	15K ohms 1/16W
R530	ERJ3GEYJ152	Carbon	1.5K ohms 1/16W	R707	ERJ3GEY0R00	Carbon	0 ohms 1/16W
R531,532	ERJ3GEYJ331	Carbon	330 ohms 1/16W	R708	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W
R533	ERJ3GEYJ822	Carbon	8.2K ohms 1/16W	R709	ERJ3GEYJ153	Carbon	15K ohms 1/16W
R534	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W	R710	ERJ3GEYJ303	Carbon	30K ohms 1/16W
R535,536	ERJ3GEYJ101	Carbon	100 ohms 1/16W	R711	ERJ3GEYJ220	Carbon	22 ohms 1/16W
R537	ERJ3GEYJ153	Carbon	15K ohms 1/16W	R712	ERJ3GEYJ153	Carbon	15K ohms 1/16W
R538	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W	R713	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W
R539	ERJ3GEYJ153	Carbon	15K ohms 1/16W	R714	ERJ3GEYJ330	Carbon	33 ohms 1/16W
R540	ERJ3GEYJ473	Carbon	47K ohms 1/16W	R715	ERJ3GEYJ153	Carbon	15K ohms 1/16W
R541	ERJ3GEYJ330	Carbon	33 ohms 1/16W	R716	ERJ3GEYJ151	Carbon	150 ohms 1/16W
R542	ERJ3GEYJ153	Carbon	15K ohms 1/16W	R717	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R601	ERJ3GEYJ241	Carbon	240 ohms 1/16W	R718	ERJ3GEYJ155	Carbon	1M ohms 1/16W

REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
R719	ERJ3GEYJ302	Carbon	3K ohms 1/16W	C28-30	ECEV1CV100	Electrolytic	10 µF 16V
R720	ERJ3GEYJ221	Carbon	220 ohms 1/16W	C31,32	YW5CH470J5VB	Ceramic	47 pF
R721	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C33	YW5CH150J5VB	Ceramic	15 pF
R722	ERJ3GEYJ752	Carbon	7.5K ohms 1/16W	C34	YW5CH620J5VB	Ceramic	62 pF
R723	ERJ3GEYJ561	Carbon	560 ohms 1/16W	C35	YW5CH221J5VB	Ceramic	220 pF
R724	ERJ3GEYJ153	Carbon	15K ohms 1/16W	C36,37	YW5CH470J5VB	Ceramic	47 pF
R725	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C38	YW5CH150J5VB	Ceramic	15 pF
R726	ERJ3GEYJ562	Carbon	5.6K ohms 1/16W	C39	YW5CH620J5VB	Ceramic	62 pF
R727	ERJ3GEYJ751	Carbon	750 ohms 1/16W	C40	YW5CH221J5VB	Ceramic	220 pF
R728	ERJ3GEYJ752	Carbon	7.5K ohms 1/16W	C41,42	ECEV1CV100	Electrolytic	10 µF 16V
R729	ERJ3GEYJ562	Carbon	5.6K ohms 1/16W	C43,44	YW5X103K2VB	Ceramic	0.01 µF
R730	ERJ3GEYJ152	Carbon	1.5K ohms 1/16W	C45,46	ECEV1HV010	Electrolytic	1 µF 50V
R731,732	ERJ3GEYJ331	Carbon	330 ohms 1/16W	C47,48	ECEV1CV100	Electrolytic	10 µF 16V
R733	ERJ3GEYJ822	Carbon	8.2K ohms 1/16W	C49-51	YW5F104Z2VB	Ceramic	0.1 µF
R734	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W	C52,53	ECEV1CV470	Electrolytic	47 µF 16V
R735,736	ERJ3GEYJ101	Carbon	100 ohms 1/16W	C54	YW5F104Z2VB	Ceramic	0.1 µF
R737	ERJ3GEYJ153	Carbon	15K ohms 1/16W	C55	ECEV1HV010	Electrolytic	1 µF 50V
R738	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W	C56	ECEV0JV330	Electrolytic	33 µF 6.3V
R739	ERJ3GEYJ153	Carbon	15K ohms 1/16W	C57	ECEV1CV100	Electrolytic	10 µF 16V
R740	ERJ3GEYJ473	Carbon	47K ohms 1/16W	C58,59	YW5CH470J5VB	Ceramic	47 pF
R741	ERJ3GEYJ330	Carbon	33 ohms 1/16W	C60	YW5CH150J5VB	Ceramic	15 pF
R742	ERJ3GEYJ153	Carbon	15K ohms 1/16W	C61	YW5CH080D5VB	Ceramic	8 pF
VR1-4	EVM7JGA30B23	Variable Resistor	2K ohms	C62	ECEV1CN100	Electrolytic	10 µF 16V
VR5	EVM7JGA30B13	Variable Resistor	1K ohms	C64	YW5F104Z2VB	Ceramic	0.1 µF
VR6	YWRH03AVAS3W	Variable Resistor	4.7K ohms	C65	ECEV1CV100	Electrolytic	10 µF 16V
VR7,8	YWRH03AVA15W	Variable Resistor	100K ohms	C66	YW5F104Z2VB	Ceramic	0.1 µF
VR9	EVM7JGA30B23	Variable Resistor	2K ohms	C67	ECEV1CV100	Electrolytic	10 µF 16V
VR10,12	EVM7JGA30B13	Variable Resistor	1K ohms	C68	YW5F104Z2VB	Ceramic	0.1 µF
VR13,14	EVM7JGA30B13	Variable Resistor	1K ohms	C69	YW5CH151J5VB	Ceramic	150 pF
VR9	EVM7JGA30B53	Variable Resistor	5K ohms	C70	YW5CH390J5VB	Ceramic	39 pF
VR21-23	EVM7JGA30B23	Variable Resistor	2K ohms				
VR24,25	EVM7JGA30B14	Variable Resistor	10K ohms	C71	ECEV1CV100	Electrolytic	10 µF 16V
VR501,601	YWST3A101	Variable Resistor	100 ohms	C88-90	ECEV1HV010	Electrolytic	1 µF 50V
VR701	YWST3A101	Variable Resistor	100 ohms	C91,92	ECEV1CV470	Electrolytic	47 µF 16V
C1	ECEV0JV330	Electrolytic	33 µF 6.3V	C93	ECEV1CV100	Electrolytic	10 µF 16V
C2	ECEV1CV470	Electrolytic	47 µF 16V	C94	YW5F104Z2VB	Ceramic	0.1 µF
C3	YWSK1C106KRC	Electrolytic	10 µF 16V	C95	ECEV1CV100	Electrolytic	10 µF 16V
C4	ECEV0JV330	Electrolytic	33 µF 6.3V	C96	ECEV0JV330	Electrolytic	33 µF 6.3V
C5	ECEV0JV470S	Electrolytic	47 µF 6.3V	C97	YW5F104Z2VB	Ceramic	0.1 µF
C6	YWSK1C106KRC	Electrolytic	10 µF 16V	C98,99	ECEV0JV330	Electrolytic	33 µF 6.3V
C7	YWSK0G106KRB	Electrolytic	10 µF 4V	C100	YW5F104Z2VB	Ceramic	0.1 µF
C8	YW5F104Z2VB	Ceramic	0.1 µF	C101	ECEV0JV330	Electrolytic	33 µF 6.3V
C9	ECEV1CV100	Electrolytic	10 µF 16V	C102	YW5F104Z2VB	Ceramic	0.1 µF
C10	YW5CH680J5VB	Ceramic	68 pF	C103	ECEV0JV330	Electrolytic	33 µF 6.3V
C11	YW5CH270J5VB	Ceramic	27 pF	C104	YW5F104Z2VB	Ceramic	0.1 µF
C12	YW5CH680J5VB	Ceramic	68 pF	C105,106	ECEV1CV100	Electrolytic	10 µF 16V
C13	YW5CH270J5VB	Ceramic	27 pF	C107,109	YW5CH020D5VB	Ceramic	2 pF
C14,15	ECEV1CV100	Electrolytic	10 µF 16V	C111,113	YW5CH020D5VB	Ceramic	2 pF
C16,17	YW5CH470J5VB	Ceramic	47 pF	C115	YW5CH020D5VB	Ceramic	2 pF
C18	YW5CH150J5VB	Ceramic	15 pF	C116,118	ECEV1CV100	Electrolytic	10 µF 16V
C19	YW5CH100J5VB	Ceramic	10 pF	C119,120	ECEV1CV100	Electrolytic	10 µF 16V
C20	ECEV1CV100	Electrolytic	10 µF 16V	C121	YW5CH470J5VB	Ceramic	47 pF
C22,23	YW5CH050D5VB	Ceramic	5 pF	C122	ECEV1CV100	Electrolytic	10 µF 16V
C24	YW5F104Z2VB	Ceramic	0.1 µF	C123-125	YW5F104Z2VB	Ceramic	0.1 µF
C25	ECEV0JV330	Electrolytic	33 µF 6.3V	C126,127	ECEV1AG101	Electrolytic	100 µF 10V
C27	YW5CH030D5VB	Ceramic	3 pF	C128,129	ECEV1CV470	Electrolytic	47 µF 16V

REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
C401	ECEV1CV100	Electrolytic	10 μ F 16V	L501,601	YWNL322R7J	Coil	
C402	SK21D226KRD0	Electrolytic	22 μ F	L701	YWNL322R7J	Coil	
C403	ECEV1CV100	Electrolytic	10 μ F 16V	CF1	ELB4A518	Filter	
C404	SK21C336KRD0	Electrolytic	33 μ F	CF501	YWCY4S567	Filter	
C405	ECEV1CV100	Electrolytic	10 μ F 16V	CF502	YWCY4T566	Filter	
C406,407	ECEV1AG101	Electrolytic	100 μ F 10V	CF601	YWCY4S567	Filter	
C501	YW5CH180J5VB	Ceramic	18 pF	CF602	YWCY4T566	Filter	
C502	YW5CH150J5VB	Ceramic	15 pF	CF701	YWCY4S567	Filter	
C503	YW5CH180J5VB	Ceramic	18 pF	CF702	YWCY4T566	Filter	
C504	YW5F104Z2VB	Ceramic	0.1 μ F	CN1-3	YW51756394	24-pin Connector	
C505	ECEV1CV100	Electrolytic	10 μ F 16V	CN6-8	YW21763142	22-pin Connector	
C506	YWSK1E155MRB	Electrolytic	1.5 μ F 25V	CN10	YW522050890	8-pin Connector	
C507	YW5CH390J5VB	Ceramic	39 pF	CN11	YW41756392	12-pin Connector	
C508	ECEV1CV100	Electrolytic	10 μ F 16V	CN12	YW51756394	24-pin Connector	
C509	YW5F104Z2VB	Ceramic	0.1 μ F	TP1-12	YWRCT2125TPV	Test-pin	
C510	YW5CH220J5VB	Ceramic	22 pF	TP401,501	YWRCT2125TPV	Test-pin	
C511	ECEV1CV470	Electrolytic	47 μ F 16V	TP502,601	YWRCT2125TPV	Test-pin	
C512	YW5CH100J5VB	Ceramic	10 pF	TP602,701	YWRCT2125TPV	Test-pin	
C514	ECEV1CV100	Electrolytic	10 μ F 16V	TP702	YWRCT2125TPV	Test-pin	
C515,516	YW5F104Z2VB	Ceramic	0.1 μ F				
C518	YW5CH220J5VB	Ceramic	22 pF	SYNC BOARD			
C601	YW5CH180J5VB	Ceramic	18 pF	PCB5 (RTL)	YWVKCE550E3A	Printed Circuit Board Assy	
C602	YW5CH150J5VB	Ceramic	15 pF	IC1	YWTC7S04F	IC	
C603	YW5CH180J5VB	Ceramic	18 pF	IC3	MN73093	IC	
C604	YW5F104Z2VB	Ceramic	0.1 μ F	IC4	YWTC7SU04FL	IC	
C605	ECEV1CV100	Electrolytic	10 μ F 16V	IC5	NJM2904M	IC	
C606	YWSK1E155MRB	Electrolytic	1.5 μ F 25V	IC6	YWTC4S66FR	IC	
C607	YW5CH390J5VB	Ceramic	39 pF	IC7	YWUPC4062G2	IC	
C608	ECEV1CV100	Electrolytic	10 μ F 16V	IC8	YWUPD74HC04G	IC	
C609	YW5F104Z2VB	Ceramic	0.1 μ F	IC11	YWLM1881M	IC	
C610	YW5CH220J5VB	Ceramic	22 pF	IC12	NJM2904M	IC	
C611	ECEV1CV470	Electrolytic	47 μ F 16V	IC13	YWTC4S11F	IC	
C612	YW5CH100J5VB	Ceramic	10 pF	IC14	YWUPD74HC32G	IC	
C614	ECEV1CV100	Electrolytic	10 μ F 16V	IC15	YWTC7W08F	IC	
C615,616	YW5F104Z2VB	Ceramic	0.1 μ F	IC23	YWTC7S04F	IC	
C618	YW5CH220J5VB	Ceramic	22 pF	IC24	YWTC7S08F	IC	
C701	YW5CH180J5VB	Ceramic	18 pF	IC25,26	UPD74HC164G	IC	
C702	YW5CH150J5VB	Ceramic	15 pF	IC27	YWTC7W04FL	IC	
C703	YW5CH180J5VB	Ceramic	18 pF	IC28-30	UPD74HC164G	IC	
C704	YW5F104Z2VB	Ceramic	0.1 μ F	IC31	YWTC7S04F	IC	
C705	ECEV1CV100	Electrolytic	10 μ F 16V	Q2	2SB1218-QRS	Transistor	
C706	YWSK1E155MRB	Electrolytic	0.1 μ F	Q3-6	2SK662-PQR	FET	
C707	YW5CH390J5VB	Ceramic	39 pF	Q7	2SD1819-QRS	Transistor	
C708	ECEV1CV100	Electrolytic	10 μ F 16V	Q8	2SB1218-QRS	Transistor	
C709	YW5F104Z2VB	Ceramic	0.1 μ F	Q9	2SB766-RS	Transistor	
C710	YW5CH220J5VB	Ceramic	22 pF	Q10	2SC3931-CD	Transistor	
C711	ECEV1CV470	Electrolytic	47 μ F 16V	Q13	2SB1218-QRS	Transistor	
C712	YW5CH100J5VB	Ceramic	10 pF	Q15,16	2SC3931-CD	Transistor	
C714	ECEV1CV100	Electrolytic	10 μ F 16V	Q17	2SB1218-QRS	Transistor	
C715,716	YW5F104Z2VB	Ceramic	0.1 μ F	D1-6	MA372	Diode	
C718	YW5CH220J5VB	Ceramic	22 pF	D8	MA141K	Diode	
CT1,501	TZBX4R500BAT	Trimmer Capacitor		R1	ERJ3GEYJ103	Carbon	
CT601,701	TZBX4R500BAT	Trimmer Capacitor					
DLS	ELB4A514	Delay Line					
L1-4	YWNL325R6J	Coil					10K ohms 1/16W

REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
R2,3	ERJ3GEYJ223	Carbon	22K ohms 1/16W	R81-83	YWR0816R473D	Metal	47K ohms 1/16W
R4	ERJ3GEYJ103	Carbon	10K ohms 1/16W	R84	YWR0816R513D	Metal	51K ohms 1/16W
R5,6	ERJ3GEYJ223	Carbon	22K ohms 1/16W	R85	ERJ3GEYJ101	Carbon	100 ohms 1/16W
R7,8	ERJ3GEY0R00	Carbon	0 ohms 1/16W	R86	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R11	YWR0816P822D	Metal	8.2K ohms 1/16W	R89	ERJ3GEY0R00	Carbon	0 ohms 1/16W
R12	YWR0816P332D	Metal	3.3K ohms 1/16W	R91	ERJ3GEYJ101	Carbon	100 ohms 1/16W
R13	YWR0816P752D	Metal	7.5K ohms 1/16W	R92	ERJ3GEYJ223	Carbon	22K ohms 1/16W
R15	YWR0816P751D	Metal	750 ohms 1/16W	R94	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R16	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W	R95	ERJ3GEYJ223	Carbon	22K ohms 1/16W
R17	ERJ3GEYJ102	Carbon	1K ohms 1/16W	R96	ERJ3GEYJ272	Carbon	2.7K ohms 1/16W
R18	ERJ3GEYJ473	Carbon	47K ohms 1/16W	R100	ERJ3GEYJ561	Carbon	560 ohms 1/16W
R19,20	ERJ3GEYJ103	Carbon	10K ohms 1/16W	R101	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R21	ERJ3GEYJ105	Carbon	1M ohms 1/16W	R104	ERJ3GEYJ560	Carbon	56 ohms 1/16W
R22	ERJ3GEYJ152	Carbon	1.5K ohms 1/16W	R105	ERJ3GEYJ912	Carbon	9.1K ohms 1/16W
R23-25	ERJ3GEYJ101	Carbon	100 ohms 1/16W	R106	ERJ3GEYJ512	Carbon	5.1K ohms 1/16W
R28	ERJ3GEYJ101	Carbon	100 ohms 1/16W	R107	ERJ3GEYJ182	Carbon	1.8K ohms 1/16W
R29,30	ERJ3GEYJ333	Carbon	33K ohms 1/16W	R108	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R31	ERJ3GEYJ184	Carbon	180K ohms 1/16W	R109	ERJ3GEYJ820	Carbon	82 ohms 1/16W
R32	YWR0816P103D	Metal	10K ohms 1/16W	R110	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R33,34	ERJ3GEYJ101	Carbon	100 ohms 1/16W	R111,112	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R35	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W	R118	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R36	ERJ3GEYJ511	Carbon	510 ohms 1/16W	R120	ERJ3GEYJ152	Carbon	1.5K ohms 1/16W
R37	ERJ3GEYJ334	Carbon	330K ohms 1/16W	R121	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R38	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W	R122	ERJ3GEYJ221	Carbon	220 ohms 1/16W
R39	ERJ3GEYJ104	Carbon	100K ohms 1/16W	R123	ERJ3GEY0R00	Carbon	0 ohms 1/16W
R40	ERJ3GEYJ823	Carbon	82K ohms 1/16W	R127	YWR0816P221D	Metal	220 ohms 1/16W
R41	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W	R128	YWR0816P182D	Metal	1.8K ohms 1/16W
R42	ERJ3GEYJ473	Carbon	47K ohms 1/16W	R130	ERJ3GEYJ221	Carbon	220 ohms 1/16W
R43	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W	R131,132	ERJ3GEYJ101	Carbon	100 ohms 1/16W
R45	ERJ3GEY0R00	Carbon	0 ohms 1/16W	R137	ERJ3GEYJ562	Carbon	5.6K ohms 1/16W
R47	ERJ3GEYJ105	Carbon	1M ohms 1/16W	R138	ERJ3GEY0R00	Carbon	0 ohms 1/16W
R48,49	ERJ3GEYJ103	Carbon	10K ohms 1/16W	R141	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R50	ERJ3GEYJ102	Carbon	1K ohms 1/16W	R142	ERJ3GEYJ334	Carbon	330K ohms 1/16W
R51	ERJ3GEYJ103	Carbon	10K ohms 1/16W	R143	ERJ3GEYJ224	Carbon	220K ohms 1/16W
R52	ERJ3GEYJ105	Carbon	1M ohms 1/16W	R144	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R53	ERJ3GEYJ221	Carbon	220 ohms 1/16W	R145,146	ERJ3GEYJ104	Carbon	100K ohms 1/16W
R54	ERJ3GEYJ103	Carbon	10K ohms 1/16W	R148	ERJ3GEY0R00	Carbon	0 ohms 1/16W
R56-58	ERJ3GEYJ102	Carbon	1K ohms 1/16W	R149	ERJ3GEYJ223	Carbon	22K ohms 1/16W
R59	YWR0816R473D	Metal	47K ohms 1/16W	R162	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R60-62	YWR0816R104D	Metal	100K ohms 1/16W	R164,165	ERJ3GEY0R00	Carbon	0 ohms 1/16W
R63	YWR0816P222D	Metal	2.2K ohms 1/16W	R167-170	ERJ3GEY0R00	Carbon	0 ohms 1/16W
R64	YWR0816P223D	Metal	22K ohms 1/16W	R171	ERJ3GEYJ221	Carbon	220 ohms 1/16W
R65	YWR0816P103D	Metal	10K ohms 1/16W	R172-174	ERJ3GEY0R00	Carbon	0 ohms 1/16W
R66	ERJ3GEYJ101	Carbon	100 ohms 1/16W	R179	ERJ3GEYJ332	Carbon	3.3K ohms 1/16W
R67	ERJ3GEYJ103	Carbon	10K ohms 1/16W	R180	ERJ3GEYJ221	Carbon	220 ohms 1/16W
R68	ERJ3GEYJ684	Carbon	680K ohms 1/16W	VR1	EVM7JGA30B14	Variable Resistor	10K ohms
R69	ERJ3GEYJ562	Carbon	5.6K ohms 1/16W	C1,2	YW5F104Z2VB	Ceramic	0.1 μF
R70	ERJ3GEYJ101	Carbon	100 ohms 1/16W	C3	YW5CH150J5VB	Ceramic	15 pF
R71	ERJ3GEYJ182	Carbon	1.8K ohms 1/16W	C4	YW5F104Z2VB	Ceramic	0.1 μF
R72	ERJ3GEYJ752	Carbon	7.5K ohms 1/16W	C5	YW5X122K5VB	Ceramic	1200 pF
R73	ERJ3GEYJ303	Carbon	30K ohms 1/16W	C6	YW5F104Z2VB	Ceramic	0.1 μF
R74	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C8,9	YW5CH331J5VB	Ceramic	330 pF
R75	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W	C10	YWSK1C106KRC	Electrolytic	10 μF 16V
R77	ERJ3GEYJ104	Carbon	100K ohms 1/16W	C12	YW5F104Z2VB	Ceramic	0.1 μF
R78,79	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C13	YW5X103K2VB	Ceramic	0.01 μF

REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
POWER BOARD							
C14	YW5CH331J5VB	Ceramic	330 pF	PCB6 (RTL)	YWWKBE550P4A	Printed Circuit Board Assy	
C15	YWSK1C106KRC	Electrolytic	10 µF 16V	IC1,2	YWMB3782PF	IC	
C16	YW5F104Z2VB	Ceramic	0.1 µF	IC3	YWNJM2902N	IC	
C17	YWSK1C105KRA	Electrolytic	1 µF 16V	Q3	2SD1819-QRS	Transistor	
C18	YW5F104Z2VB	Ceramic	0.1 µF	Q4	2SB1218-QRS	Transistor	
C19	SK21C225KRA	Electrolytic	2.2 µF 16V	Q5	2SJ128	Transistor	
C20	YW5X103K2VB	Ceramic	0.01 µF	Q6	2SD1819-QRS	Transistor	
C21	SK21C225KRA	Electrolytic	2.2 µF 16V	Q7	2SB1218-QRS	Transistor	
C22	YW5CH201J5VB	Ceramic	200 pF	Q8	2SJ132	FET	
C23	YW5F104Z2VB	Ceramic	0.1 µF	Q9	2SA1615-LK	Transistor	
C24	YW5CH201J5VB	Ceramic	200 pF	Q10,11	2SD1819-QRS	Transistor	
C25	YW5CH060D5VB	Ceramic	6 pF	Q12	2SB1218-QRS	Transistor	
C26,27	YW5CH121J5VB	Ceramic	120 pF	Q13	2SJ132	FET	
C29,30	YWSK1C106KRC	Electrolytic	10 µF 16V	Q14	2SA1615-LK	Transistor	
C31	ECEV1EV4R7	Electrolytic	4.7 µF 25V	Q15	2SD1819-QRS	Transistor	
C32	YW5X102K5VB	Ceramic	1000 pF	Q16	2SJ132	FET	
C33	SK31A475KRA	Electrolytic	4.7 µF 10V	Q17,18	2SD1819-QRS	Transistor	
C34,37	YW5F104Z2VB	Ceramic	0.1 µF	Q19	2SB1218-QRS	Transistor	
C38,39	YW5F104Z2VB	Ceramic	0.1 µF	Q20	2SJ128	Transistor	
C40	ECEV0JN100S	Electrolytic	10 µF 6.3V	Q21	2SD1819-QRS	Transistor	
C41	YW5F104Z2VB	Ceramic	0.1 µF	Q22	2SB1218-QRS	Transistor	
C42	ECEV0JV330	Electrolytic	33 µF 6.3V	Q23-25	2SJ132	FET	
C43,44	ECEV1CV100	Electrolytic	10 µF 16V	Q26	2SA1615-LK	Transistor	
C45,47	YW5F104Z2VB	Ceramic	0.1 µF	Q27	2SD1819-QRS	Transistor	
C49	YW5F104Z2VB	Ceramic	0.1 µF	Q28	2SB1218-QRS	Transistor	
C50	ECEV1CV100	Electrolytic	10 µF 16V	Q29	2SC3074Y	Transistor	
C51	YW5F104Z2VB	Ceramic	0.1 µF	Q30	2SA1615-LK	Transistor	
C52	ECEV1CV100	Electrolytic	10 µF 16V	Q31	2SD1819-QRS	Transistor	
C53	YW5F104Z2VB	Ceramic	0.1 µF	Q39	2SA1615-LK	Transistor	
C56	YW5CH150J5VB	Ceramic	15 pF	D1-6	YWSC80204R	Diode	
C74	YWSK1C105KRA	Electrolytic	1 µF 16V	D8,9	YWSC80204R	Diode	
C75	YW5F104Z2VB	Ceramic	0.1 µF	R1	YWR0816R104D	Metal	100K ohms 1/16W
C76	YW5X102K5VB	Ceramic	1000 pF	R2	YWR0816R363D	Metal	36K ohms 1/16W
C77-81	YW5F104Z2VB	Ceramic	0.1 µF	R3	YWR0816R104D	Metal	100K ohms 1/16W
C82	YW5CH150J5VB	Ceramic	15 pF	R4	YWR0816R623D	Metal	62K ohms 1/16W
L1	EIC4EJ003E	Coil		R5	YWR0816R104D	Metal	100K ohms 1/16W
L2,4	ELJFC8R2MF	Coil		R6	YWR0816P303D	Metal	30K ohms 1/16W
L5,6	YWBLM21B03PB	Coil		R7	YWR0816R104D	Metal	100K ohms 1/16W
X1	Ywdx17R734	Crystal Oscillator		R8	YWR0816R473D	Metal	47K ohms 1/16W
X2	Ywdx14R187	Crystal Oscillator		R9	YWR0816R104D	Metal	100K ohms 1/16W
CF1	Ywnl4532S4R4	Filter		R10	YWR0816R563D	Metal	56K ohms 1/16W
CN1-3	YW51763132	Connector		R11	YWR0816R104D	Metal	100K ohms 1/16W
TP1-6	Ywrct2125TPV	Test-Pin		R12	YWR0816R563D	Metal	56K ohms 1/16W
TP8,10	Ywrct2125TPV	Test-Pin		R13	YWR0816P332D	Metal	3.3K ohms 1/16W
				R14	YWR0816P362D	Metal	3.6K ohms 1/16W
				R23,24	ERJ3GEYJ103	Carbon	10K ohms 1/16W
				R25	ERJ3GEYJ511	Carbon	510 ohms 1/16W
				R26-31	ERJ3GEYJ103	Carbon	10K ohms 1/16W
				R32	YWR0816P682D	Metal	6.8K ohms 1/16W
				R33-37	ERJ3GEYJ103	Carbon	10K ohms 1/16W
				R38	ERJ3GEYJ470	Carbon	47 ohms 1/16W

REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
R39	YWR0816R513D	Metal	51K ohms 1/16W	C3,4	YW5X103K2VB	Ceramic	0.01 µF
R40	YWR0816P203D	Metal	20K ohms 1/16W	C5	YW5F473Z2VB	Ceramic	0.047 µF
R41	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C6	YW5X103K2VB	Ceramic	0.01 µF
R42	ERJ3GEYJ470	Carbon	47 ohms 1/16W	C7	YW5F104Z2VB	Ceramic	0.1 µF
R43,44	YWR0816P243D	Metal	24K ohms 1/16W	C9	YW5F683Z2VB	Ceramic	0.068 µF
R45	YWR0816P103D	Metal	10K ohms 1/16W	C10	YW5F104Z2VB	Ceramic	0.1 µF
R46	ERJ3GEYJ101	Carbon	100 ohms 1/16W	C11,12	YW5F683Z2VB	Ceramic	0.068 µF
R47	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C13	YW400102CHJT	Ceramic	1000 pF
R48	YWR0816R433D	Metal	43K ohms 1/16W	C14	YW5F683Z2VB	Ceramic	0.068 µF
R49	YWR0816P153D	Metal	15K ohms 1/16W	C15	YW5F104Z2VB	Ceramic	0.1 µF
R50	YWR0816P123D	Metal	12K ohms 1/16W	C16,17	YW5F683Z2VB	Ceramic	0.068 µF
R51	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C18	YW16SA68M	Electrolytic	68 µF 16V
R52	ERJ3GEYJ470	Carbon	47 ohms 1/16W	C19	YW5F104Z2VB	Ceramic	0.1 µF
R53,54	YWR0816P333D	Metal	33K ohms 1/16W	C20	YW16SA33M	Electrolytic	33 µF 16V
R55	YWR0816P103D	Metal	10K ohms 1/16W	C21	YW20SA68M	Electrolytic	68 µF 20V
R56	ERJ3GEYJ101	Carbon	100 ohms 1/16W	C22	YW20SA100M	Electrolytic	100 µF 20V
R57	YWR0816R473D	Metal	47K ohms 1/16W	C23	YW5F104Z2VB	Ceramic	0.1 µF
R58	YWR0816P333D	Metal	33K ohms 1/16W	C24	YW16SA100M	Electrolytic	100 µF 16V
R59	YWR0816P123D	Metal	12K ohms 1/16W	C25	YW5X103K2VB	Ceramic	0.01 µF
R60	ERJ3GEYJ473	Carbon	47K ohms 1/16W	C26	ECA1AFQ331	Electrolytic	330 µF 10V
R61	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W	C27	YW5F104Z2VB	Ceramic	0.1 µF
R62	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C28	YW16SA100M	Electrolytic	100 µF 16V
R63	ERJ3GEYJ470	Carbon	47 ohms 1/16W	C29	YW5X103K2VB	Ceramic	0.01 µF
R64	YWR0816P243D	Metal	24K ohms 1/16W	C30	ECA1AFQ181	Electrolytic	180 µF 10V
R65	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C31	YW5F104Z2VB	Ceramic	0.1 µF
R66	YWR0816P153D	Metal	15K ohms 1/16W	C32	UPQ1A331MGH	Electrolytic	330 µF 10V
R67	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C33	YW10SA33M	Electrolytic	33 µF 10V
R68-70	ERJ3GEYJ470	Carbon	47 ohms 1/16W	C34	YW5F104Z2VB	Ceramic	0.1 µF
R71	YWR0816R683D	Metal	68K ohms 1/16W	C35	YW10SA100M	Electrolytic	100 µF 10V
R72	YWR0816P203D	Metal	20K ohms 1/16W	C36	YW5X103K2VB	Ceramic	0.01 µF
R73	ERJ3GEYJ101	Carbon	100 ohms 1/16W	C37	ECA0JFQ471	Electrolytic	470 µF 6.3V
R74	YWR0816P103D	Metal	10K ohms 1/16W	C38	UPQ1V101MGH	Electrolytic	100 µF 35V
R75	YWR0816P302D	Metal	3K ohms 1/16W	C39	YW5F104Z2VB	Ceramic	0.1 µF
R76	YWR0816P103D	Metal	10K ohms 1/16W	C40	UPQ1V101MGH	Electrolytic	100 µF 35V
R77	YWR0816P302D	Metal	3K ohms 1/16W	C41	ECA1VFQ560	Electrolytic	56 µF 35V
R78	ERJ3GEYJ471	Carbon	470 ohms 1/16W	C42	YW5X103K2VB	Ceramic	0.01 µF
R79	ERJ3GEYJ680	Carbon	68 ohms 1/16W	C43	ECA0JFQ681	Electrolytic	680 µF 6.3V
R80	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C46	YW5F104Z2VB	Ceramic	0.1 µF
R81	YWR0816R683D	Metal	68K ohms 1/16W	C48	YW5CH200J5VB	Ceramic	20 pF
R82	YWR0816P432D	Metal	4.3K ohms 1/16W	L1	S100434182K	Coil	
R83	ERJ3GEYJ101	Carbon	100 ohms 1/16W	L2	YWS100529220	Coil	22 µH
R84	YWR0816P103D	Metal	10K ohms 1/16W	L3	YWS100518220	Coil	22 µH
R85	YWR0816P302D	Metal	3K ohms 1/16W	L4	S100434560K	Coil	56 µH
R103	ERJ3GEYJ103	Carbon	10K ohms 1/16W	L5	S100434391K	Coil	390 µH
R106	ERJ3GEYJ102	Carbon	1K ohms 1/16W	L6	S100434181K	Coil	180 µH
R107	ERJ3GEYJ202	Carbon	2K ohms 1/16W	L7	YWS100518220	Coil	
R116	ERJ3GEYJ331	Carbon	330 ohms 1/16W	L8	YFLH10D500K	Coil	50 µH
R120,121	ERJ3GEY0R00	Carbon	0 ohms 1/16W	L9	S100434561K	Coil	560 µH
VR1	YWRH03AVAJ2W	Variable Resistor	220 ohms	L10	YWS100529220	Coil	
VR2	YWRH03AVAJ3W	Variable Resistor	2.2K ohms	L11-13	YWBLM21B03PB	Coil	
C1	YW5X103K2VB	Ceramic	0.01 µF	CN1,2	YW51756394	24-pin Connector	
C2	YW5F473Z2VB	Ceramic	0.047 µF	TP1-3	YWRCT2125TPV	Test- Pin	
				M19	YVV6FA0166A4	Bracket	

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION			
REAR BOARD								
PCB7 (RTL)	YWKCE550P4A	Printed Circuit Board Assy	SW2-4	YWSKHHPP	Push Switch			
IC1	YWUPD4053BG	IC	SW5	YWSS222AN	Slide Switch			
IC2	YWUPD74HC08G	IC	CF1-3	NFM6130T472B	Filter			
IC5	NJM4556M	IC	CN1-3	YW51746434	24 pin Connector			
IC6	NJM2903M	IC	CN4	10A10TR12SB	12-pin Connector			
IC7	YWUPD4050BG	IC	CN5	10A13TR20PB	20-pin Connector			
IC8	YWTCA511F	IC	CN6	YWSDEB9S05	9-pin Connector			
IC9,10	YWTCA5584FR	IC	CN7	YWPCE28MD	28-pin Connector			
IC11,12	YWTCA569F	IC	CN8	HR10A10R12PB	12-pin Connector			
IC13	YWTCA553FL	IC	CN9	YWHR10A7R4PB	4-pin Connector			
Q1	IMZ1T9	Transistor	CN10-12	YWBNCRD	BNC Connector			
D1	LN277RPX	LED	F1	YWSSFC1R6AT4	Current Fuse 1.6A			
D2	MA143	Diode	E1	YWHDLNA	Fuse Holder			
D3	MA141K	Diode	M22	YWV6FA0167A2	Bracket for Earth			
D4	MA143	Diode	M23	YWA2NE0257A4	Spacer			
D5-7	YWERB83004	Diode						
D8,9	MA143	Diode	PRE PROCESS BOARD					
R1	ERJ3GEYJ751	Carbon	PCB8 (RTL)	YWKZE550P2A	Printed Circuit Board Assy			
R2,3	ERJ3GEYJ473	Carbon	IC1	YWUPD4050BG	IC			
R4	ERJ3GEYJ101	Carbon	IC3	NJM2902M	IC			
R5,6	YWR0816P222D	Metal	IC5	NJM2904M	IC			
R7	ERJ3GEYJ510	Carbon	IC6	YWUPC4064G2	IC			
R8	YWR0816R513D	Metal	IC7	YWTCA553FL	IC			
R9	ERJ3GEYJ101	Carbon	IC8	NJM2902M	IC			
R10	ERJ3GEYJ104	Carbon	IC101	NJM2904M	IC			
R11	ERJ3GEYJ102	Carbon	IC102	YWUPD4053BG	IC			
R12	ERJ3GEYJ473	Carbon	IC103	NJM3414M	IC			
R13,14	ERJ3GEYJ221	Carbon	IC104,105	YWTCA553FL	IC			
R15,16	ERJ3GEYJ472	Carbon	IC106,201	NJM2904M	IC			
R17-24	ERJ3GEYJ104	Carbon	IC202	YWUPD4053BG	IC			
R25,26	ERJ3GEYJ750	Carbon	IC203	NJM3414M	IC			
R27-31	ERJ3GEYJ680	Carbon	IC204,205	YWTCA553FL	IC			
R32	ERJ3GEYJ100	Carbon	IC206,301	NJM2904M	IC			
R33	ERJ3GEYJ221	Carbon	IC302	YWUPD4053BG	IC			
R34	ERJ3GEYJ680	Carbon	IC303	NJM3414M	IC			
R35	ERJ3GEYJ221	Carbon	IC304,305	YWTCA553FL	IC			
R36-38	ERJ3GEYJ680	Carbon	IC306	NJM2904M	IC			
R40,41	ERJ3GEYJ221	Carbon	Q1	2SB766-RS	Transistor			
R42	ERJ3GEYJ680	Carbon	Q2	2SD874A-RS	Transistor			
C1	ECEA0JKG470	Electrolytic	Q3	2SB766-RS	Transistor			
C2	YW5CH101J5VB	Ceramic	Q4-6	2SB1218-QRS	Transistor			
C3	YW5F104Z2VB	Ceramic	Q7,8	2SD1819-QRS	Transistor			
C4	ECEA1AKG220	Electrolytic	Q9	2SB1218-QRS	Transistor			
C5	YW5X102K5VB	Ceramic	Q10-13	2SD1819-QRS	Transistor			
C6	ECEA0JKG470	Electrolytic	Q14	2SB1218-QRS	Transistor			
C7	YW5CH101J5VB	Ceramic	Q15-19	2SD1819-QRS	Transistor			
C8	ECEA0JKG470	Electrolytic	Q101-103	2SC3931-CD	Transistor			
C9-12	YW5F104Z2VB	Ceramic						
C13	ECEA1AKG220	Electrolytic						
L1	YWNL32330J	Coil						
SW1	YWSKHHQN	Push Switch						

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
Q104	2SK662-PQR	FET	R10	ERJ3GEYJ103	Carbon 10K ohms 1/16W
Q105	XN6534	Transistor	R11	ERJ3GEY0R00	Carbon 0 ohms 1/16W
Q106	XN6435	Transistor	R12	ERJ3GEYJ333	Carbon 33K ohms 1/16W
Q107	UMZ1	Transistor	R13	ERJ3GEYJ334	Carbon 330K ohms 1/16W
Q108	XN6435	Transistor	R14	ERJ3GEYJ224	Carbon 220K ohms 1/16W
Q110	2SC3931-CD	Transistor	R16	ERJ3GEYJ103	Carbon 10K ohms 1/16W
Q111	2SK662-PQR	FET	R17	ERJ3GEYJ102	Carbon 1K ohms 1/16W
Q112	UMZ1	Transistor	R18-22	YWR0816R473D	Metal 47K ohms 1/16W
Q113-124	2SA1532-CD	Transistor	R23	YWR0816R513D	Metal 51K ohms 1/16W
Q125	2SC3931-CD	Transistor	R24	YWR0816R473D	Metal 47K ohms 1/16W
Q126	XN6435	Transistor	R25	YWR0816R363D	Metal 36K ohms 1/16W
Q127	2SK662-PQR	FET	R26	ERJ3GEYJ102	Carbon 1K ohms 1/16W
Q128,201	2SC3931-CD	Transistor	R27,28	ERJ3GEYJ101	Carbon 100 ohms 1/16W
Q202,203	2SC3931-CD	Transistor	R29	ERJ3GEYJ102	Carbon 1K ohms 1/16W
Q204	2SK662-PQR	FET	R30-32	YWR0816R473D	Metal 47K ohms 1/16W
Q205	XN6534	Transistor	R33	YWR0816R623D	Metal 62K ohms 1/16W
Q206	XN6435	Transistor	R34	ERJ3GEYJ102	Carbon 1K ohms 1/16W
Q207	UMZ1	Transistor	R35	ERJ3GEYJ101	Carbon 100 ohms 1/16W
Q208	XN6435	Transistor	R36	YWR0816P103D	Metal 10K ohms 1/16W
Q210	2SC3931-CD	Transistor	R37	YWR0816P132D	Metal 1.3K ohms 1/16W
Q211	2SK662-PQR	FET	R38	ERJ3GEYJ102	Carbon 1K ohms 1/16W
Q212	UMZ1	Transistor	R39	ERJ3GEYJ332	Carbon 3.3K ohms 1/16W
Q213-224	2SA1532-CD	Transistor	R40	YWR0816R473D	Metal 47K ohms 1/16W
Q225	2SC3931-CD	Transistor	R41	YWR0816R563D	Metal 56K ohms 1/16W
Q226	XN6435	Transistor	R42,43	ERJ3GEYJ102	Carbon 1K ohms 1/16W
Q227	2SK662-PQR	FET	R44	ERJ3GEYJ331	Carbon 330 ohms 1/16W
Q228,301	2SC3931-CD	Transistor	R45	ERJ3GEYJ682	Carbon 6.8K ohms 1/16W
Q302,303	2SC3931-CD	Transistor	R46	ERJ3GEYJ223	Carbon 22K ohms 1/16W
Q304	2SK662-PQR	FET	R47	ERJ3GEYJ473	Carbon 47K ohms 1/16W
Q305	XN6534	Transistor	R48	ERJ3GEYJ223	Carbon 22K ohms 1/16W
Q306	XN6435	Transistor	R49	ERJ3GEYJ473	Carbon 47K ohms 1/16W
Q307	UMZ1	Transistor	R50	ERJ3GEYJ103	Carbon 10K ohms 1/16W
Q308	XN6435	Transistor	R51,52	ERJ3GEYJ101	Carbon 100 ohms 1/16W
Q310	2SC3931-CD	Transistor	R53	ERJ3GEYJ222	Carbon 2.2K ohms 1/16W
Q311	2SK662-PQR	FET	R54,55	ERJ3GEYJ101	Carbon 100 ohms 1/16W
Q312	UMZ1	Transistor	R56,57	ERJ3GEYJ103	Carbon 10K ohms 1/16W
Q313-324	2SA1532-CD	Transistor	R58	ERJ3GEYJ223	Carbon 22K ohms 1/16W
Q325	2SC3931-CD	Transistor	R59	ERJ3GEYJ473	Carbon 47K ohms 1/16W
Q326	XN6435	Transistor	R60	ERJ3GEYJ223	Carbon 22K ohms 1/16W
Q327	2SK662-PQR	FET	R61	ERJ3GEYJ473	Carbon 47K ohms 1/16W
Q328	2SC3931-CD	Transistor	R62	ERJ3GEYJ682	Carbon 6.8K ohms 1/16W
D2,101	MA141K	Diode	R63,64	ERJ3GEYJ101	Carbon 100 ohms 1/16W
D102,201	MA141K	Diode	R65	ERJ3GEYJ103	Carbon 10K ohms 1/16W
D301,302	MA141K	Diode	R66,67	ERJ3GEYJ101	Carbon 100 ohms 1/16W
D302	MA141A	Diode	R68,69	ERJ3GEYJ103	Carbon 10K ohms 1/16W
TH130,230	L311J101J332	Thermistor	R70	ERJ3GEYJ223	Carbon 22K ohms 1/16W
TH330	L311J101J332	Thermistor	R71	ERJ3GEYJ103	Carbon 10K ohms 1/16W
R1	ERJ3GEYJ334	Carbon 330K 1/16W	R72	ERJ3GEYJ223	Carbon 22K ohms 1/16W
R2	ERJ3GEYJ224	Carbon 220K ohms 1/16W	R73	ERJ3GEYJ103	Carbon 10K ohms 1/16W
R3	ERJ3GEYJ333	Carbon 33K ohms 1/16W	R74	ERJ3GEYJ223	Carbon 22K ohms 1/16W
R4	ERJ3GEY0R00	Carbon 0 ohms 1/16W	R75	ERJ3GEYJ103	Carbon 10K ohms 1/16W
R5	ERJ3GEYJ103	Carbon 10K ohms 1/16W	R76	ERJ3GEYJ223	Carbon 22K ohms 1/16W
R6	ERJ3GEYJ104	Carbon 100K ohms 1/16W	R77	ERJ3GEYJ103	Carbon 10K ohms 1/16W
R7	ERJ3GEYJ103	Carbon 10K ohms 1/16W	R78-81	ERJ3GEYJ223	Carbon 22K ohms 1/16W
R8	ERJ3GEYJ104	Carbon 100K ohms 1/16W	R82-93	ERJ3GEYJ473	Carbon 47K ohms 1/16W
R9	ERJ3GEYJ333	Carbon 33K ohms 1/16W			

REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
R94-96	ERJ3GEYJ103	Carbon	10K ohms 1/16W	R163	YWR0816P272D	Metal	2.7K ohms 1/16W
R97	ERJ3GEYJ333	Carbon	33K ohms 1/16W	R164	YWR0816P301D	Metal	300 ohms 1/16W
R98	YWR0816P472D	Metal	4.7K ohms 1/16W	R165	YWR0816R683D	Metal	68K ohms 1/16W
R99	YWR0816P751D	Metal	750 ohms 1/16W	R166	YWR0816P223D	Metal	22K ohms 1/16W
R101	ERJ3GEYJ331	Carbon	330 ohms 1/16W	R167	YWR0816P103D	Metal	10K ohms 1/16W
R102	ERJ3GEYJ103	Carbon	10K ohms 1/16W	R168	YWR0816P202D	Metal	2K ohms 1/16W
R103	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W	R169	YWR0816R683D	Metal	68K ohms 1/16W
R104,105	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W	R170	YWR0816P223D	Metal	22K ohms 1/16W
R106	YWR0816P101D	Metal	100 ohms 1/16W	R171,172	ERJ3GEYJ101	Carbon	100 ohms 1/16W
R107	YWR0816P222D	Metal	2.2K ohms 1/16W	R173	YWR0816P202D	Metal	2K ohms 1/16W
R108	ERJ3GEYJ473	Carbon	47K ohms 1/16W	R174,175	ERJ3GEYJ153	Carbon	15K ohms 1/16W
R109	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W	R176	YWR0816P182D	Metal	1.8K ohms 1/16W
R110	ERJ3GEYJ100	Carbon	10 ohms 1/16W	R177	YWR0816P471D	Metal	470 ohms 1/16W
R111,112	ERJ3GEYJ103	Carbon	10K ohms 1/16W	R178	ERJ3GEYJ223	Carbon	22K ohms 1/16W
R113	ERJ3GEYJ223	Carbon	22K ohms 1/16W	R179	YWR0816P471D	Metal	470 ohms 1/16W
R114	ERJ3GEYJ101	Carbon	100 ohms 1/16W	R180	YWR0816P102D	Metal	1K ohms 1/16W
R115,116	ERJ3GEYJ473	Carbon	47K ohms 1/16W	R181	ERJ3GEYJ101	Carbon	100 ohms 1/16W
R117,118	ERJ3GEYJ223	Carbon	22K ohms 1/16W	R182	ERJ3GEYJ223	Carbon	22K ohms 1/16W
R119	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W	R183	ERJ3GEYJ101	Carbon	100 ohms 1/16W
R120,121	YWR0816P101D	Metal	100 ohms 1/16W	R184	YWR0816P152D	Metal	1.5K ohms 1/16W
R122	ERJ3GEYJ101	Carbon	100 ohms 1/16W	R185	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W
R123	YWR0816P152D	Metal	1.5K ohms 1/16W	R186	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R124	YWR0816P102D	Metal	1K ohms 1/16W	R187	ERJ3GEYOR00	Carbon	0 ohms 1/16W
R125	YWR0816P152D	Metal	1.5K ohms 1/16W	R188	ERJ3GEYJ682	Carbon	6.8K ohms 1/16W
R126	ERJ3GEYOR00	Carbon	0 ohms 1/16W	R189	ERJ3GEYJ471	Carbon	470 ohms 1/16W
R127	YWR0816P822D	Metal	8.2K ohms 1/16W	R190	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R128	YWR0816R473D	Metal	47K ohms 1/16W	R191	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R129	YWR0816P103D	Metal	10K ohms 1/16W	R201	ERJ3GEYJ331	Carbon	330 ohms 1/16W
R131	YWR0816P752D	Metal	7.5K ohms 1/16W	R202	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R132,133	YWR0816P203D	Metal	20K ohms 1/16W	R203	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W
R135	YWR0816P472D	Metal	4.7K ohms 1/16W	R204,205	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W
R136	YWR0816P203D	Metal	20K ohms 1/16W	R206	YWR0816P101D	Metal	100 ohms 1/16W
R137	YWR0816P103D	Metal	10K ohms 1/16W	R207	YWR0816P202D	Metal	2K ohms 1/16W
R139	ERJ3GEYJ101	Carbon	100 ohms 1/16W	R208	ERJ3GEYJ473	Carbon	47K ohms 1/16W
R140	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W	R209	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W
R141,142	ERJ3GEYJ102	Carbon	1K ohms 1/16W	R210	ERJ3GEYJ100	Carbon	10 ohms 1/16W
R143,144	ERJ3GEYJ223	Carbon	22K ohms 1/16W	R211,212	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R145	ERJ3GEYJ101	Carbon	100 ohms 1/16W	R213	ERJ3GEYJ223	Carbon	22K ohms 1/16W
R146	ERJ3GEYJ104	Carbon	100K ohms 1/16W	R214	ERJ3GEYJ101	Carbon	100 ohms 1/16W
R147	ERJ3GEYJ223	Carbon	22K ohms 1/16W	R215,216	ERJ3GEYJ473	Carbon	47K ohms 1/16W
R148	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W	R217,218	ERJ3GEYJ223	Carbon	22K ohms 1/16W
R149	ERJ3GEYJ101	Carbon	100 ohms 1/16W	R219	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W
R150	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W	R220,221	YWR0816P101D	Metal	100 ohms 1/16W
R151	ERJ3GEYJ103	Carbon	10K ohms 1/16W	R222	ERJ3GEYJ101	Carbon	100 ohms 1/16W
R152	ERJ3GEYJ101	Carbon	100 ohms 1/16W	R223	YWR0816P152D	Metal	1.5K ohms 1/16W
R153	ERJ3GEYJ103	Carbon	10K ohms 1/16W	R224	YWR0816P102D	Metal	1K ohms 1/16W
R154	ERJ3GEYJ101	Carbon	100 ohms 1/16W	R225	YWR0816P152D	Metal	1.5K ohms 1/16W
R155	ERJ3GEYJ103	Carbon	10K ohms 1/16W	R226	ERJ3GEYOR00	Carbon	0 ohms 1/16W
R156	ERJ3GEYJ101	Carbon	100 ohms 1/16W	R227	YWR0816P822D	Metal	8.2K ohms 1/16W
R157	ERJ3GEYJ103	Carbon	10K ohms 1/16W	R228	YWR0816R473D	Metal	47K ohms 1/16W
R158	ERJ3GEYJ101	Carbon	100 ohms 1/16W	R229	YWR0816P103D	Metal	10K ohms 1/16W
R159	YWR0816P222D	Metal	2.2K ohms 1/16W	R231	YWR0816P752D	Metal	7.5K ohms 1/16W
R160	YWR0816P331D	Metal	330 ohms 1/16W	R232,233	YWR0816P203D	Metal	20K ohms 1/16W
R161	YWR0816P103D	Metal	10K ohms 1/16W	R235	YWR0816P472D	Metal	4.7K ohms 1/16W
R162	YWR0816P223D	Metal	22K ohms 1/16W	R236	YWR0816P203D	Metal	20K ohms 1/16W

REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
R237	YWR0816P103D	Metal	10K ohms 1/16W	R307	YWR0816P222D	Metal	2.2K ohms 1/16W
R238	YWR0816P203D	Metal	20K ohms 1/16W	R308	ERJ3GEYJ473	Carbon	47K ohms 1/16W
R239	ERJ3GEYJ101	Carbon	100 ohms 1/16W	R309	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W
R240	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W	R310	ERJ3GEYJ100	Carbon	10 ohms 1/16W
R241,242	ERJ3GEYJ102	Carbon	1K ohms 1/16W	R311,312	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R243,244	ERJ3GEYJ223	Carbon	22K ohms 1/16W	R313	ERJ3GEYJ223	Carbon	22K ohms 1/16W
R245	ERJ3GEYJ101	Carbon	100 ohms 1/16W	R314	ERJ3GEYJ101	Carbon	100 ohms 1/16W
R246	ERJ3GEYJ104	Carbon	100K ohms 1/16W	R315,316	ERJ3GEYJ473	Carbon	47K ohms 1/16W
R247	ERJ3GEYJ223	Carbon	22K ohms 1/16W	R317,318	ERJ3GEYJ223	Carbon	22K ohms 1/16W
R248	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W	R319	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W
R249	ERJ3GEYJ101	Carbon	100 ohms 1/16W	R320,321	YWR0816P101D	Metal	100 ohms 1/16W
R250	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W	R322	ERJ3GEYJ101	Carbon	100 ohms 1/16W
R251	ERJ3GEYJ103	Carbon	10K ohms 1/16W	R323	YWR0816P152D	Metal	1.5K ohms 1/16W
R252	ERJ3GEYJ101	Carbon	100 ohms 1/16W	R324	YWR0816P102D	Metal	1K ohms 1/16W
R253	ERJ3GEYJ103	Carbon	10K ohms 1/16W	R325	YWR0816P152D	Metal	1.5K ohms 1/16W
R254	ERJ3GEYJ101	Carbon	100 ohms 1/16W	R326	ERJ3GEY0R00	Carbon	0 ohms 1/16W
R255	ERJ3GEYJ103	Carbon	10K ohms 1/16W	R327	YWR0816P822D	Metal	8.2K ohms 1/16W
R256	ERJ3GEYJ101	Carbon	100 ohms 1/16W	R328	YWR0816R473D	Metal	47K ohms 1/16W
R257	ERJ3GEYJ103	Carbon	10K ohms 1/16W	R329	YWR0816P103D	Metal	10K ohms 1/16W
R258	ERJ3GEYJ101	Carbon	100 ohms 1/16W	R331	YWR0816P752D	Metal	7.5K ohms 1/16W
R259	YWR0816P222D	Metal	2.2K ohms 1/16W	R332,333	YWR0816P203D	Metal	20K ohms 1/16W
R260	YWR0816P331D	Metal	330 ohms 1/16W	R335	YWR0816P472D	Metal	4.7K ohms 1/16W
R261	YWR0816P103D	Metal	10K ohms 1/16W	R336	YWR0816P203D	Metal	20K ohms 1/16W
R262	YWR0816P223D	Metal	22K ohms 1/16W	R337	YWR0816P103D	Metal	10K ohms 1/16W
R263	YWR0816P272D	Metal	2.7K ohms 1/16W	R339	ERJ3GEYJ101	Carbon	100 ohms 1/16W
R264	YWR0816P301D	Metal	300 ohms 1/16W	R340	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W
R265	YWR0816R683D	Metal	68K ohms 1/16W	R341,342	ERJ3GEYJ102	Carbon	1K ohms 1/16W
R266	YWR0816P223D	Metal	22K ohms 1/16W	R343,344	ERJ3GEYJ223	Carbon	22K ohms 1/16W
R267	YWR0816P103D	Metal	10K ohms 1/16W	R345	ERJ3GEYJ101	Carbon	100 ohms 1/16W
R268	YWR0816P202D	Metal	2K ohms 1/16W	R346	ERJ3GEYJ104	Carbon	100K ohms 1/16W
R269	YWR0816R683D	Metal	68K ohms 1/16W	R347	ERJ3GEYJ223	Carbon	22K ohms 1/16W
R270	YWR0816P223D	Metal	22K ohms 1/16W	R348	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W
R271,272	ERJ3GEYJ101	Carbon	100 ohms 1/16W	R349	ERJ3GEYJ101	Carbon	100 ohms 1/16W
R273	YWR0816P202D	Metal	2K ohms 1/16W	R350	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W
R274,275	ERJ3GEYJ153	Carbon	15K ohms 1/16W	R351	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R276	YWR0816P182D	Metal	1.8K ohms 1/16W	R352	ERJ3GEYJ101	Carbon	100 ohms 1/16W
R277	YWR0816P471D	Metal	470 ohms 1/16W	R353	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R278	ERJ3GEYJ223	Carbon	22K ohms 1/16W	R354	ERJ3GEYJ101	Carbon	100 ohms 1/16W
R279	YWR0816P471D	Metal	470 ohms 1/16W	R355	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R280	YWR0816P102D	Metal	1K ohms 1/16W	R356	ERJ3GEYJ101	Carbon	100 ohms 1/16W
R281	ERJ3GEYJ101	Carbon	100 ohms 1/16W	R357	ERJ3GEYJ103	Carbon	10K ohms 1/16W
R282	ERJ3GEYJ223	Carbon	22K ohms 1/16W	R358	ERJ3GEYJ101	Carbon	100 ohms 1/16W
R283	ERJ3GEYJ101	Carbon	100 ohms 1/16W	R359	YWR0816P222D	Metal	2.2K ohms 1/16W
R284	YWR0816P152D	Metal	1.5K ohms 1/16W	R360	YWR0816P331D	Metal	330 ohms 1/16W
R285	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W	R361	YWR0816P103D	Metal	10K ohms 1/16W
R286	ERJ3GEYJ102	Carbon	1K ohms 1/16W	R362	YWR0816P223D	Metal	22K ohms 1/16W
R287	ERJ3GEY0R00	Carbon	0 ohms 1/16W	R363	YWR0816P272D	Metal	2.7K ohms 1/16W
R288	ERJ3GEYJ682	Carbon	6.8K ohms 1/16W	R364	YWR0816P301D	Metal	300 ohms 1/16W
R289	ERJ3GEYJ471	Carbon	470 ohms 1/16W	R365	YWR0816R683D	Metal	68K ohms 1/16W
R290	ERJ3GEYJ102	Carbon	1K ohms 1/16W	R366	YWR0816P223D	Metal	22K ohms 1/16W
R301	ERJ3GEYJ331	Carbon	330 ohms 1/16W	R367	YWR0816P103D	Metal	10K ohms 1/16W
R302	ERJ3GEYJ103	Carbon	10K ohms 1/16W	R368	YWR0816P202D	Metal	2K ohms 1/16W
R303	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W	R369	YWR0816R683D	Metal	68K ohms 1/16W
R304,305	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W	R370	YWR0816P223D	Metal	22K ohms 1/16W
R306	YWR0816P101D	Metal	100 ohms 1/16W	R371,372	ERJ3GEYJ101	Carbon	100 ohms 1/16W

REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
R373	YWR0816P202D	Metal	2K ohms 1/16W	C17	YW5CH101J5VB	Ceramic	100 pF
R374,375	ERJ3GEYJ153	Carbon	15K ohms 1/16W	C18	YW5X103K2VB	Ceramic	0.01 μF
R376	YWR0816P182D	Metal	1.8K ohms 1/16W	C19	YWSK1C105KRA	Electrolytic	1 μF 16V
R377	YWR0816P471D	Metal	470 ohms 1/16W	C20	YW5X103K2VB	Ceramic	0.01 μF
R378	ERJ3GEYJ223	Carbon	22K ohms 1/16W	C21-24	ECEV1CV100	Electrolytic	10 μF 16V
R379	YWR0816P471D	Metal	470 ohms 1/16W	C25-30	YW5F104Z2VB	Ceramic	0.1 μF
R380	YWR0816P102D	Metal	1K ohms 1/16W	C31	SK31A106KRB	Electrolytic	10 μF 10V
R381	ERJ3GEYJ101	Carbon	100 ohms 1/16W	C101	ECEV1CV100	Electrolytic	10 μF 16V
R382	ERJ3GEYJ223	Carbon	22K ohms 1/16W	C102	YWSK1C106KRC	Electrolytic	10 μF 16V
R383	ERJ3GEYJ101	Carbon	100 ohms 1/16W	C103	YW5CH150J5VB	Ceramic	15 pF
R384	YWR0816P152D	Metal	1.5K ohms 1/16W	C104	YW5F104Z2VB	Ceramic	0.1 μF
R385	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W	C105	YW5CH030D5VB	Ceramic	3 pF
R386	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C107	YW5CH020D5VB	Ceramic	2 pF
R387	ERJ3GEY0R00	Carbon	0 ohms 1/16W	C108	ECEV1CN100	Electrolytic	10 μF 16V
R388	ERJ3GEYJ682	Carbon	6.8K ohms 1/16W	C109,110	ECEV1HN010SR	Electrolytic	10 μF 50V
R389	ERJ3GEYJ471	Carbon	470 ohms 1/16W	C111,114	ECEV1CV100	Electrolytic	10 μF 16V
R390	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C115	YW5F104Z2VB	Ceramic	0.1 μF
R391	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C116	YW5CH471J5VB	Ceramic	470 pF
R400	YWR0816P102D	Metal	1K ohms 1/16W	C117	YW5CH030D5VB	Ceramic	3 pF
R401	YWR0816P121D	Metal	120 ohms 1/16W	C118	YW5F104Z2VB	Ceramic	0.1 μF
R402	YWR0816P331D	Metal	330 ohms 1/16W	C119	ECEV0GV101S	Electrolytic	100 μF 4V
R403	YWR0816Q470D	Metal	47 ohms 1/16W	C120	YWSK1C106KRC	Electrolytic	10 μF 16V
R404	YWR0816P181D	Metal	180 ohms 1/16W	C124	ECEV1CV100	Electrolytic	10 μF 16V
R405	YWR0816Q470D	Metal	47 ohms 1/16W	C125	YW5F104Z2VB	Ceramic	0.1 μF
R406	YWR0816P101D	Metal	100 ohms 1/16W	C126,127	ECEV1CV100	Electrolytic	10 μF 16V
R407	YWR0816Q150D	Metal	15 ohms 1/16W	C128	YW5X103K2VB	Ceramic	0.01 μF
VR1-14	EVM7JGA30B54	Variable Resistor	50K ohms	C130,132	YW5F104Z2VB	Ceramic	0.1 μF
VR101	EVM7JGA30B53	Variable Resistor	5K ohms	C133-135	YW5F104Z2VB	Ceramic	0.1 μF
VR102-104	EVM7JGA30B15	Variable Resistor	100K ohms	C136	SK21D106KRC	Electrolytic	10 μF 16V
VR105	EVM7JGA30B14	Variable Resistor	10K ohms	C137	ECEV1CV100	Electrolytic	10 μF 16V
VR106,107	EVM7JGA30B15	Variable Resistor	100K ohms	C140	YW5CH270J5VB	Ceramic	27 pF
VR108-110	EVM7JGA30B13	Variable Resistor	1K ohms	C141	YW5X103K2VB	Ceramic	0.01 μF
VR111	EVM7JGA30B24	Variable Resistor	20K ohms	C143	ECEV1CV100	Electrolytic	10 μF 16V
VR201	EVM7JGA30B14	Variable Resistor	10K ohms	C144	YW5F104Z2VB	Ceramic	0.1 μF
VR202-204	EVM7JGA30B15	Variable Resistor	100K ohms	C145	ECEV1CV100	Electrolytic	10 μF 16V
VR205	EVM7JGA30B14	Variable Resistor	10K ohms	C146,147	YW5F104Z2VB	Ceramic	0.1 μF
VR206,207	EVM7JGA30B15	Variable Resistor	100K ohms	C148	YW5CH050D5VB	Ceramic	5 pF
VR208-210	EVM7JGA30B13	Variable Resistor	1K ohms	C149	ECEV1CV470	Electrolytic	47 μF 16V
VR301	EVM7JGA30B23	Variable Resistor	2K ohms	C201	ECEV1CV100	Electrolytic	10 μF 16V
VR302-304	EVM7JGA30B15	Variable Resistor	100K ohms	C202	YWSK1C106KRC	Electrolytic	10 μF 16V
VR305	EVM7JGA30B14	Variable Resistor	10K ohms	C203	YW5CH150J5VB	Ceramic	15 pF
VR306,307	EVM7JGA30B15	Variable Resistor	100K ohms	C204	YW5F104Z2VB	Ceramic	0.1 μF
VR308-310	EVM7JGA30B13	Variable Resistor	1K ohms	C207	YW5CH050D5VB	Ceramic	5 pF
VR311	EVM7JGA30B24	Variable Resistor	20K ohms	C208	ECEV1CN100	Electrolytic	10 μF 16V
C1	ECEV1HN010SR	Electrolytic	1 μF 50V	C209,210	ECEV1HN010SR	Electrolytic	1 μF 50V
C3	YW5CH151J5VB	Ceramic	150 pF	C211,214	ECEV1CV100	Electrolytic	10 μF 16V
C7	YW5X103K2VB	Ceramic	0.01 μF	C215	YW5F104Z2VB	Ceramic	0.1 μF
C8,9	ECEV1CV100	Electrolytic	10 μF 16V	C216	YW5CH471J5VB	Ceramic	470 pF
C10	ECEV1CV470	Electrolytic	47 μF 16V	C217	YW5CH030D5VB	Ceramic	3 pF
C11	ECEV1CV100	Electrolytic	10 μF 16V	C218	YW5F104Z2VB	Ceramic	0.1 μF
C12	ECEV0JV101	Electrolytic	100 μF 6.3V	C219	ECEV0GV101S	Electrolytic	100 μF 4V
C13	SK21C336KRD0	Electrolytic	33 μF 16V	C220	YWSK1C106KRC	Electrolytic	10 μF 16V
C14	ECEV0JV101	Electrolytic	100 μF 6.3V	C224	ECEV1CV100	Electrolytic	10 μF 16V
C15	SK21A476KRD0	Electrolytic	47 μF 10V	C225	YW5F104Z2VB	Ceramic	0.1 μF
C16	ECEV1CV100	Electrolytic	10 μF 16V	C226,227	ECEV1CV100	Electrolytic	10 μF 16V

REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
MOTHER BOARD							
C228	YW5X103K2VB	Ceramic	0.01 μ F	PCB9 (RTL)	YVVKBE550P2A	Printed Circuit Board Assy	
C230,232	YW5F104Z2VB	Ceramic	0.1 μ F	IC1	YWUPD4051BG	IC	
C233-235	YW5F104Z2VB	Ceramic	0.1 μ F	IC2	NJM2902M	IC	
C236	SK21D106KRC	Electrolytic	10 μ F 16V	IC3,4	YWUPD4066BG	IC	
C237	ECEV1CV100	Electrolytic	10 μ F 16V	IC5,6	YWTC4S66FR	IC	
C240	YW5CH270J5VB	Ceramic	27 pF	IC7	NJM2904M	IC	
C241	YW5X103K2VB	Ceramic	0.01 μ F	IC8	YWNJM2902N	IC	
C243	ECEV1CV100	Electrolytic	10 μ F 16V	IC9	MC74HC4040F	IC	
C244	YW5F104Z2VB	Ceramic	0.1 μ F	IC10	YWMC74HC10F	IC	
C245	ECEV1CV100	Electrolytic	10 μ F 16V	IC11	YWMC74HC74AF	IC	
C246,247	YW5F104Z2VB	Ceramic	0.1 μ F	Q1	2SD1819-QRS	Transistor	
C248	YW5CH050D5VB	Ceramic	5 pF	Q2	2SB1218A-QR	Transistor	
C249	ECEV1CV470	Electrolytic	47 μ F 16V	Q3-12	2SD1819-QRS	Transistor	
C301	ECEV1CV100	Electrolytic	10 μ F 16V	Q16	2SB1218A-QR	Transistor	
C302	YWSK1C106KRC	Electrolytic	10 μ F 16V	Q17,18	2SD1819-QRS	Transistor	
C303	YW5CH150J5VB	Ceramic	15 pF	Q19	2SB1218A-QR	Transistor	
C304	YW5F104Z2VB	Ceramic	0.1 μ F	Q20	2SD874A-RS	Transistor	
C305	YW5CH030D5VB	Ceramic	3 pF	Q21	2SB1218A-QR	Transistor	
C307	YW5CH020D5VB	Ceramic	2 pF	Q22	2SB766A-QR	Transistor	
C308	ECEV1CN100	Electrolytic	10 μ F 16V	Q23	2SD1819-QRS	Transistor	
C309,310	ECEV1HN010SR	Electrolytic	1 μ F 50V	Q24	2SB766A-QR	Transistor	
C311,314	ECEV1CV100	Electrolytic	10 μ F 16V	Q25	2SD1819-QRS	Transistor	
C315	YW5F104Z2VB	Ceramic	0.1 μ F	Q26	2SB766A-QR	Transistor	
C316	YW5CH471J5VB	Ceramic	470 pF	Q27	2SD1819-QRS	Transistor	
C317	YW5CH030D5VB	Ceramic	3 pF	Q28	2SD1979	Transistor	
C318	YW5F104Z2VB	Ceramic	0.1 μ F	Q29	2SB1218A-QR	Transistor	
C319	ECEV0GV101S	Electrolytic	100 μ F 4V	D1	MA5082	Diode	
C320	YWSK1C106KRC	Electrolytic	10 μ F 16V	D2	MA143	Diode	
C324	ECEV1CV100	Electrolytic	10 μ F 16V	D6	MA159	Diode	
C325	YW5F104Z2VB	Ceramic	0.1 μ F	R1-4	ERJ3GEYJ473	Carbon	47K ohms 1/16W
C326,327	ECEV1CV100	Electrolytic	10 μ F 16V	R5	ERJ3GEYJ472	Carbon	4.7K ohms 1/16W
C328	YW5X103K2VB	Ceramic	0.01 μ F	R6	ERJ3GEYJ102	Carbon	1K ohms 1/16W
C330,332	YW5F104Z2VB	Ceramic	0.1 μ F	R8	YWR0816P622D	Metal	6.2K ohms 1/16W
C333-335	YW5F104Z2VB	Ceramic	0.1 μ F	R9	YWR0816P103D	Metal	10K ohms 1/16W
C336	SK21D106KRC	Electrolytic	10 μ F 16V	R10	YWR0816P562D	Metal	5.6K ohms 1/16W
C337	ECEV1CV100	Electrolytic	10 μ F 16V	R11	ERJ3GEYJ102	Carbon	1K ohms 1/16W
C340	YW5CH270J5VB	Ceramic	27 pF	R12	YWR0816P183D	Metal	18K ohms 1/16W
C341	YW5X103K2VB	Ceramic	0.01 μ F	R13	YWR0816P432D	Metal	4.3K ohms 1/16W
C343	ECEV1CV100	Electrolytic	10 μ F 16V	R14	YWR0816R363D	Metal	36K ohms 1/16W
C344	YW5F104Z2VB	Ceramic	0.1 μ F	R15	YWR0816P153D	Metal	15K ohms 1/16W
C345	ECEV1CV100	Electrolytic	10 μ F 16V	R16	YWR0816P183D	Metal	18K ohms 1/16W
C346,347	YW5F104Z2VB	Ceramic	0.1 μ F	R17	YWR0816R363D	Metal	36K ohms 1/16W
C348	YW5CH050D5VB	Ceramic	5 pF	R18-21	ERJ3GEYJ104	Carbon	100K ohms 1/16W
C349	ECEV1CV470	Electrolytic	47 μ F 16V	R22-29	ERJ3GEYJ473	Carbon	47K ohms 1/16W
CN1-3	YW51756394	Connector		R30-33	ERJ3GEYJ103	Carbon	10K ohms 1/16W
TP1,101	YWRCT2125TPV	Test-Pin		R34	ERJ3GEYJ101	Carbon	100 ohms 1/16W
TP102-106	YWRCT2125TPV	Test-Pin		R35	ERJ3GEYJ622	Carbon	6.2K ohms 1/16W
TP201-206	YWRCT2125TPV	Test-Pin		R36	ERJ3GEYJ101	Carbon	100 ohms 1/16W
TP301-306	YWRCT2125TPV	Test-Pin		R37	ERJ3GEYJ622	Carbon	6.2K ohms 1/16W
				R38-43	ERJ3GEYJ473	Carbon	47K ohms 1/16W
				R44	ERJ3GEYJ223	Carbon	22K ohms 1/16W

REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
R45-56	ERJ3GEYJ473	Carbon	47K ohms 1/16W	CN11-18	YW51756434	24-pin Connector	
R62-64	ERJ3GEYJ105	Carbon	1M ohms 1/16W	CN19-21	YW51756394	24-pin Connector	
R65,66	ERJ3GEYJ150	Carbon	15 ohms 1/16W	CN22	YW51756434	24-pin Connector	
R67	ERJ3GEYJ103	Carbon	10K ohms 1/16W	CN23	YW41756432	12-pin Connector	
R68	ERJ3GEYJ223	Carbon	22K ohms 1/16W	CN24	YW51756434	24-pin Connector	
R69	ERJ3GEYJ333	Carbon	33K ohms 1/16W	CN25	YW41756432	12-pin Connector	
R70,71	ERJ3GEYJ104	Carbon	100K ohms 1/16W				
R72	YWR0816P183D	Metal	18K ohms 1/16W				
R73	YWR0816R334D	Metal	330K ohms 1/16W				
R74	ERJ3GEYJ331	Carbon	330 ohms 1/16W				
R75	ERJ3GEYJ102	Carbon	1K ohms 1/16W				
R76	YWR0816R124D	Metal	120K ohms 1/16W				
R77	YWR0816P303D	Metal	30K ohms 1/16W				
R78	ERJ3GEYJ331	Carbon	330 ohms 1/16W				
R79	ERJ3GEYJ102	Carbon	1K ohms 1/16W				
R80	YWR0816P203D	Metal	20K ohms 1/16W				
R81	YWR0816P303D	Metal	30K ohms 1/16W				
R86	ERJ3GEYJ331	Carbon	330 ohms 1/16W				
R87	ERJ3GEYJ102	Carbon	1K ohms 1/16W				
R88	YWR0816P302D	Metal	3K ohms 1/16W				
R89	YWR0816P183D	Metal	18K ohms 1/16W				
R90	YWR0816P223D	Metal	22K ohms 1/16W				
R91	YWR0816P303D	Metal	30K ohms 1/16W				
R96	ERJ3GEYJ331	Carbon	330 ohms 1/16W				
R97	ERJ3GEYJ102	Carbon	1K ohms 1/16W				
R98	YWR0816P203D	Metal	20K ohms 1/16W				
R99	YWR0816R683D	Metal	68K ohms 1/16W				
R100	YWR0816P223D	Metal	22K ohms 1/16W				
R101	YWR0816R683D	Metal	68K ohms 1/16W				
C1	YW5F104Z2VB	Ceramic	0.1 µF				
C2	YW5CH101J5VB	Ceramic	100 pF				
C3	YWSK1C106KRC	Electrolytic	10 µF 16V				
C4-6	YW5F104Z2VB	Ceramic	0.1 µF				
C7	ECEV1CV470	Electrolytic	47 µF 16V				
C8-10	YW5F104Z2VB	Ceramic	0.1 µF				
C11	ECEV1EV330	Electrolytic	33 µF 25V				
C12	ECEV1CV470	Electrolytic	47 µF 16V				
C16-18	ECEV1HV3R3SR	Electrolytic	3.3 µF 50V				
C19	YW5X103K2VB	Ceramic	0.01 µF				
C20	YW5X102K5VB	Ceramic	1000 pF				
C21,22	ECEV1EV330	Electrolytic	33 µF 25V				
C23	ECEV1VG330	Electrolytic	33 µF 35V				
C24,25	ECEV1EV330	Electrolytic	33 µF 25V				
C26,27	ECEV0JV101	Electrolytic	100 µF 6.3V				
C28	ECEV0JV220	Electrolytic	22 µF 6.3V				
C29	ECEV0JV101	Electrolytic	100 µF 6.3V	EXB01	YWV0EA0287AN	12P-24P Extention Board	
C30	ECEV1CV470	Electrolytic	47 µF 16V	EXB02	YWV0EA0288AN	24PX2 Extention Board	
C31	ECEV1CV100	Electrolytic	10 µF 16V	EXB03	YWV0EA0289AN	24P-X3 Extention Board	
C32	ECEV1CV470	Electrolytic	47 µF 16V	EXB04	YWV0EA0290AN	Sensor/drive Extention Board	
C33	SK21C336KRD0	Electrolytic	33 µF 16V	EXB05	YWV0EA0291AN	Sensor/Pre AMP Extention Board	
C34	YW5F104Z2VB	Ceramic	0.1 µF	EXB06	YWV0EA0292AN	Mother/Rear Extention Board	
C40-42	NFM41R10C102	Bead		EXB07	YWV0EA0293AN	Encord/Sync Extention Board	
C43	YW5F104Z2VB	Ceramic	0.1 µF	EXB08	YWV0EA0294AN	Syscon Extention Board	
C44	YWSK1C106KRC	Electrolytic	10 µF 16V	EXB09	YWV0EA0295AN	Dita Extention Board	
CN2-6	YW51756434	24-pin Connector					

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
CAMERA ADAPTOR WV-PS550					
MISCELLANEOUS					
Q101	2SC3944-RS	Transistor	PCB3 (RTL)	YWVKDPS55P1A	Printed Circuit Board Assy
CN101	YWPNP5D2V	S-Video Connector	IC1	YWUPC4570G	IC
CN102	YWNR	Connector	IC2	NJM4560M	IC
M1	YWW5WA1593A3	Front Panel	IC3	YW78L09UATE1	IC
M2	YWW2KA0887A2	Front Chassis	IC4	YWTAT303P	IC
M3	YWW2KA0889B1	Main Chassis	IC5	NJM4556MB	IC
M4	YWW2SA2655A4	Mounting Angle	IC6	NJM2903M	IC
M5	YWW2KA0859A2	Side Chassis	IC7	YW78L09UATE1	IC
M6	YWCS1	Cord Clamp	Q1,2	2SD1819-QRS	Transistor
M7	YWW2SA2656A4	Mounting Angle	Q3-5	2SC3931-CD	Transistor
M8	YWW2PA0619A4	Insulator	Q6	2SB1219-QRS	Transistor
M9	YWW5EA1343B2	Upper Cover	Q7,8	2SD1819-QRS	Transistor
M10	YWW5EB1306B2	Bottom Cover	Q9	2SC3938-QRS	Transistor
M11	YWW5350WB01	Rubber Foot	Q10	2SB1218-QRS	Transistor
M12	YWW5WA1594A2	Rear Panel	Q12	2SK662-PQR	FET
M13	YWW2SA2654A4	Mounting Angle	Q13	2SD1819-QRS	Transistor
M14	UAMS-05SV0	Cord Clamp	D1	MA141K	Diode
M15	YWW2SA2657A4	Mounting Angle for Left Side	D2,3	YWRD2R0ESB1	Diode
M16	YWW2SA2658A4	Mounting Angle for Right Side	D4	MA338	Diode
M17	YWW2PA0618A4	Insulator	D5	MA182	Diode
M18	YWW2SA2653A4	Mounting Angle	D6,7	MA141K	Diode
M19	YWA1GA0001A4	Plasty-Rivet	R1	YWR0816P103D	Metal
M21	YWW7QA3239A4	Main Label	R2	YWR0816P102D	Metal
M22	YWW7SA1838A4	Screw Caution Label	R3	YWR0816P103D	Metal
M25	YWW7MA0338A4	Caution Label	R4	ERJ3GEYJ392	Carbon
M26	YFV7MB0099A4	UL Caution Label	R5	ERJ3GEYJ334	Carbon
			R6	YWR0816P273D	Metal
			R7	YF2116751JT	Carbon
			R8	ERJ3GEYJ471	Carbon
			R9	ERJ3GEYJ822	Carbon
			R10	ERJ3GEYJ163	Carbon
			R11	ERJ3GEYJ100	Carbon
			R12	ERJ6GEY0R00	Carbon
			R13	ERJ3GEYJ222	Carbon
			R14	ERJ3GEYJ123	Carbon
			R15	ERJ3GEYJ153	Carbon
			R16	YWR0816P113D	Metal
			R17	YWR0816P133D	Metal
			R18	ERJ3GEYJ563	Carbon
			R19	ERJ3GEYJ473	Carbon
			R20	ERJ3GEYJ333	Carbon
			R21	ERJ3GEYJ222	Carbon
			R22	ERJ3GEYJ101	Carbon
			R23	ERJ3GEYJ222	Carbon
			R24,25	ERJ3GEYJ331	Carbon
			R26,27	ERJ3GEYJ333	Carbon
			R28	ERJ3GEYJ101	Carbon
			R29	ERJ3GEYJ100	Carbon
			R30	ERJ3GEYJ222	Carbon
			R31	ERJ3GEYJ102	Carbon
			R32	ERJ3GEYJ104	Carbon

REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION		
R33,34	ERJ3GEYJ223	Carbon	22K ohms 1/16W	C30	YF400104FZT	Ceramic	0.1 μ F	
R35	ERJ3GEYJ562	Carbon	5.6K ohms 1/16W	C31	ECEA1CKS470	Electrolytic	47 μ F 16V	
R36	ERJ3GEYJ123	Carbon	12K ohms 1/16W	C32,33	YF400104FZT	Ceramic	0.1 μ F	
R37	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C34	YW5CH050D5VB	Ceramic	5 pF	
R38	ERJ3GEYJ102	Carbon	1K ohms 1/16W	C35	YW5X682K2VB	Ceramic	6800 pF	
R39	ERJ3GEYJ331	Carbon	330 ohms 1/16W	C36	YW5X182K2VB	Ceramic	1800 pF	
R40	ERJ3GEYJ101	Carbon	100 ohms 1/16W	C37	YW5X272K5VB	Ceramic	2700 pF	
R41	ERJ3GEYJ331	Carbon	330 ohms 1/16W	C38	YF400104FZT	Ceramic	0.1 μ F	
R43	ERJ3GEYJ222	Carbon	2.2K ohms 1/16W	C39	ECEA1CKS470	Electrolytic	47 μ F 16V	
R44,45	ERJ3GEYJ752	Carbon	7.5K ohms 1/16W	C40	ECEA1AKN470	Electrolytic	47 μ F 10V	
R50	ERJ3GEYJ682	Carbon	6.8K ohms 1/16W	C42	ECEA1AKA220	Electrolytic	22 μ F 10V	
R51,52	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C43	YW5CH101J5VB	Ceramic	100 pF	
R53	ERJ3GEYJ182	Carbon	1.8K ohms 1/16W	C44	YW5CH100J5VB	Ceramic	10 pF	
R54	ERJ3GEYJ683	Carbon	68K ohms 1/16W	C45	ECEA1AKS470	Electrolytic	47 μ F 10V	
R55	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C46	ECEA1HKA2R2	Electrolytic	2.2 μ F 50V	
R56	ERJ3GEYJ221	Carbon	220 ohms 1/16W	C47	ECEA1HKAR47	Electrolytic	0.47 μ F 50V	
R57	ERJ3GEYJ473	Carbon	47K ohms 1/16W	C48	YW5X103K2VB	Ceramic	0.01 μ F	
R58	ERJ3GEYJ683	Carbon	68K ohms 1/16W	C49	YF400104FZT	Ceramic	0.1 μ F	
R59	ERJ3GEYJ104	Carbon	100K ohms 1/16W	C50	ECSF1VE685	Tantalum	6.8 μ F 35V	
R60	ERJ3GEYJ223	Carbon	22K ohms 1/16W	C51	ECEA1CKS470	Electrolytic	47 μ F 16V	
R61	ERJ3GEYJ103	Carbon	10K ohms 1/16W	C52	YF400104FZT	Ceramic	0.1 μ F	
R62	ERJ3GEYJ105	Carbon	1M ohms 1/16W	C53	ECEA1CKS470	Electrolytic	47 μ F 16V	
R63	YWR0816P822D	Metal	8.2K ohms 1/16W	L1	YWS100522391	Coil	390 μ H	
R64	ERJ3GEYJ391	Carbon	390 ohms 1/16W	L2	YWTLCL441Z	Coil		
R65	ERJ3GEYJ105	Carbon	1M ohms 1/16W	L3	YWTLCL1217Z	Coil		
R66	ERJ3GEYJ102	Carbon	1K ohms 1/16W	SW1,2	YWSSSS812B12	Slide Switch		
R67,68	ERJ3GEYJ104	Carbon	100K ohms 1/16W	CF1	YWE112S	Ceramic Filter		
R69	ERJ3GEY0R00	Carbon	0 ohms 1/16W	CF2-4	YWE117S	Ceramic Filter		
R70-74	ERJ6GEY0R00	Carbon	0 ohms 1/10W	CN1	YW41756398	14-pin Connector		
VR1	EVML3GA00B23	Variable Resistor	2 K ohms	TP1-4	YW32BM7R5	Test- Pin		
C1	ECEA1CKA100	Electrolytic	10 μ F 16V	M31	YWV2HA1118A4	Shield Parts		
C2	ECEA1AKS470	Electrolytic	47 μ F 10V	M32	YWV2HA1119A4	Shield Parts		
C3	ECEA1CKN100	Electrolytic	10 μ F 16V	M33	YWV2HA1120A4	Shield Parts		
C4	ECEA1AKS470	Electrolytic	47 μ F 10V	M34	YWV2HA1121A4	Shield Parts		
C5	YW5X102K5VB	Ceramic	1000 pF	INTERFACE BOARD				
C6	ECEA1CKN100	Electrolytic	10 μ F 16V	PCB4 (RTL)	YWVKEPS55P1A	Printed Circuit Board Assy		
C7	YW5CH330J5VB	Ceramic	33 pF	L1,2	YWBL01RN1A62	Coil		
C8	ECEA1CKS470	Electrolytic	47 μ F 16V	CN1	YWPCRE36MD	36-pin Connector		
C9,10	ECEA1CKN100	Electrolytic	10 μ F 16V	CN2	YWPCRE28MD	28-pin Connector		
C11	ECEA1AKA220	Electrolytic	22 μ F 10V	LED BOARD				
C12	ECEA1CKS470	Electrolytic	47 μ F 16V	PCB5 (RTL)	YWVKFPS55P1A	Printed Circuit Board Assy		
C13	YW5X472K5VB	Ceramic	4700 pF	D1	LN277RPX	LED		
C14,15	YW5CH101J5VB	Ceramic	100 pF	M36	YWA2NC0257A4	Spacer		
C16	YF400104FZT	Ceramic	0.1 μ F					
C17	YW5CH120J5VB	Ceramic	12 pF					
C18	YW5X102K5VB	Ceramic	1000 pF					
C19	YW5CH101J5VB	Ceramic	100 pF					
C20	YW400560THJ	Ceramic	56 pF					
C21	YF400104FZT	Ceramic	0.1 μ F					
C22,23	YW5X102K5VB	Ceramic	1000 pF					
C24	YF400104FZT	Ceramic	0.1 μ F					
C25	ECEA1CKS470	Electrolytic	47 μ F 16V					
C26	ECEA1CKS470	Electrolytic	47 μ F 16V					
C27,28	YW5CH200J5VB	Ceramic	20 pF					
C29	ECEA1CKS470	Electrolytic	47 μ F 16V					

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
MOTHER BOARD					
PCB6 (RTL)	YWVKYPS55P1A	Printed Circuit Board Assy	Q6,7	2SA1022-C	Transistor
IC1	YWMC145407F	IC	Q8,9	2SD601-RS	Transistor
IC2	NJM2903M	IC	Q10	2SA1022-C	Transistor
D1	MA157	Diode	Q11	2SC2404-CD	Transistor
R1	ERDS2TJ910	Carbon	Q12	2SD601-RS	Transistor
R2	ERJ3GEYJ750	Carbon	Q13	2SC2404-CD	Transistor
R3	ERJ3GEYJ101	Carbon	Q14-16	2SD601-RS	Transistor
R4	ERJ3GEYJ223	Carbon	Q17	2SB709-RS	Transistor
R5	ERJ3GEYJ682	Carbon	Q18-21	2SC2404-CD	Transistor
R6	ERJ3GEYJ103	Carbon	Q23,24	2SC2404-CD	Transistor
R7	ERJ3GEYJ101	Carbon	Q25	2SK198-Q	Transistor
C1	ECA1EFZ181	Electrolytic	Q26-28	2SC2404-CD	Transistor
C2	ECEA1CKS470	Electrolytic	Q29,30	2SA1022-C	Transistor
C3-6	ECEA1CKA100	Electrolytic	Q31	2SC2404-CD	Transistor
C8	ECEA1CKA220	Electrolytic	Q32	2SD601-RS	Transistor
C9	YW5F104Z2VB	Ceramic	Q33	2SA1022-C	Transistor
CN1	YW530141410	0.1 μF	Q34,35	2SD601-RS	Transistor
CN2,3	FCN214J050GA	14-pin Connector	Q36	2SC2404-CD	Transistor
CN4,5	YW530140410	50-pin Connector	Q37,38	2SD601-RS	Transistor
CN6	YW530140810	4-pin Connector	Q39	2SK198-Q	Transistor
CN7	YW530140310	8-pin Connector	Q40	2SB793-RS	Transistor
CN8	YW530140810	Current Fuse	Q41	2SD601-RS	Transistor
F1	YWSSFR4AF002	0.4A	Q42	2SB793-RS	Transistor
			Q43-45	2SD601-RS	Transistor
			Q46	2SB793-RS	Transistor
			Q47	2SD601-RS	Transistor
			Q48	2SB793-RS	Transistor
			D1	MA165	Diode
			D2	MA151K	Diode
			R1	YF2116333GT	Carbon
			R2	YF2116683GT	Carbon
			R3	YF2116681JT	Carbon
			R4	ERJ6GEYJ102	Carbon
			R5	ERJ6GEYJ102	Carbon
			R6	YF2116560JT	Carbon
			R7	YF2116153JT	Carbon
			R8	YF2116123JT	Carbon
			R9	YF2116470JT	Carbon
			R10	YF2116470JT	Carbon
			R11	ERJ6GEYJ472	Carbon
			R12	YF2116102JT	Carbon
			R13	ERJ6GEYJ472	Carbon
			R14	YF2116333GT	Carbon
			R15	YF2116473GT	Carbon
			R16	YF2116203JT	Carbon
			R17	YF2116101JT	Carbon
			R18	ERJ6GEYJ393	Carbon
			R19	YF2116683GT	Carbon
			R20	ERJ6GEYJ102	Carbon
			R21	YF2116821GT	Carbon
			R22	YF2116331JT	Carbon
			R23	YF2116821GT	Carbon
			R24	ERJ6GEYJ103	Carbon
			R25	YF2116391JT	Carbon
			R26	YF2116332JT	Carbon

REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
R27	ERJ6GEYJ103	Carbon	10K ohms 1/10W	R109	YF2116821GT	Carbon	820 ohms 1/10W
R28,29	YF2116682JT	Carbon	6.8K ohms 1/10W	R110,111	YF2116101JT	Carbon	100 ohms 1/10W
R30	YF2116473GT	Carbon	47K ohms 1/10W	R112	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R31	YF2116332JT	Carbon	3.3K ohms 1/10W	R113	YF2116911JT	Carbon	910 ohms 1/10W
R32	YF2116101JT	Carbon	100 ohms 1/10W	R114	YW2116242JT	Carbon	2.4K ohms 1/10W
R33	YF2116332JT	Carbon	3.3K ohms 1/10W	R115	YF2116101JT	Carbon	100 ohms 1/10W
R34,35	YF2116331JT	Carbon	330 ohms 1/10W	R116	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R38	YF2116273GT	Carbon	27K ohms 1/10W	R117	YF2116101JT	Carbon	100 ohms 1/10W
R39	YF2116683GT	Carbon	68K ohms 1/10W	R118	YF2116391JT	Carbon	390 ohms 1/10W
R40	YF2116822JT	Carbon	8.2K ohms 1/10W	R119	YF2116332JT	Carbon	3.3K ohms 1/10W
R41	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R120	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R42	YF2116152JT	Carbon	1.5K ohms 1/10W	R121	YF2116682JT	Carbon	6.8K ohms 1/10W
R43,44	YF2116101JT	Carbon	100 ohms 1/10W	R122	YF2116473GT	Carbon	47K ohms 1/10W
R45	YF2116181JT	Carbon	180 ohms 1/10W	R123	YF2116682JT	Carbon	6.8K ohms 1/10W
R46	ERJ6GEYJ472	Carbon	4.7K ohms 1/16W	R124	YF2116332JT	Carbon	3.3K ohms 1/10W
R47	YF2116122JT	Carbon	1.2K ohms 1/10W	R125	YF2116101JT	Carbon	100 ohms 1/10W
R48	YF2116152JT	Carbon	1.5K ohms 1/10W	R126	YF2116332JT	Carbon	3.3K ohms 1/10W
R49	ERJ6GEYJ103	Carbon	10K ohms 1/10W	R127,128	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R50,51	YF2116152JT	Carbon	1.5K ohms 1/10W	R129	YF2116822JT	Carbon	8.2K ohms 1/10W
R52-55	YF2116332JT	Carbon	3.3K ohms 1/10W	R130	YF2116202JT	Carbon	2K ohms 1/10W
R66	YF2116473GT	Carbon	47K ohms 1/10W	R131	YF2116101JT	Carbon	100 ohms 1/10W
R67	YF2116152JT	Carbon	1.5K ohms 1/10W	R132	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R68	YF2116272JT	Carbon	2.7K ohms 1/10W	R133	ERJ6GEYJ472	Carbon	4.7K ohms 1/16W
R69	ERJ6GEYJ103	Carbon	10K ohms 1/10W	R134	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R70	YF2116681JT	Carbon	680 ohms 1/10W	R135,136	YF2116332JT	Carbon	3.3K ohms 1/10W
R71	YF2116684JT	Carbon	680K ohms 1/10W	R137	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R72,73	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R138	YF2116332JT	Carbon	3.3K ohms 1/10W
R74,75	YF2116682JT	Carbon	6.8K ohms 1/10W	R139	YF2116152JT	Carbon	1.5K ohms 1/10W
R76	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R140	YF2116183GT	Carbon	18K ohms 1/10W
R77	YF2116152JT	Carbon	1.5K ohms 1/10W	R141	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R78	ERJ6GEYJ103	Carbon	10K ohms 1/10W	R142,143	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R79	ERJ6GEYJ472	Carbon	4.7K ohms 1/16W	R144	YF2116162JT	Carbon	1.6K ohms 1/10W
R80	YF2116332JT	Carbon	3.3K ohms 1/10W	R145	YF2116563JT	Carbon	56K ohms 1/10W
R81	YF2116101JT	Carbon	100 ohms 1/10W	R146	YF2116182JT	Carbon	1.8K ohms 1/10W
R82,83	YF2116332JT	Carbon	3.3K ohms 1/10W	R147	YF2116514GT	Carbon	510K ohms 1/10W
R86	YF2116563JT	Carbon	56K ohms 1/10W	R148	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R87	YF2116333GT	Carbon	33K ohms 1/10W	R149	YF2116272JT	Carbon	2.7K ohms 1/10W
R88	YF2116332JT	Carbon	3.3K ohms 1/10W	R150	YF2116474JT	Carbon	470K ohms 1/10W
R89,90	ERJ6GEYJ102	Carbon	1K ohms 1/10W	R151	YF2116112JT	Carbon	1.1K ohms 1/10W
R91	YF2116471JT	Carbon	470 ohms 1/10W	R152,153	ERJ6GEYJ472	Carbon	4.7K ohms 1/16W
R92	YF2116333GT	Carbon	33K ohms 1/10W	R155	YF2116222GT	Carbon	2.2K ohms 1/10W
R93	YF2116473GT	Carbon	47K ohms 1/10W	R156	YF2116563JT	Carbon	56K ohms 1/10W
R94	YF2116202JT	Carbon	2K ohms 1/10W	R157	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R95	YF2116510JT	Carbon	51 ohms 1/10W	R158	YF2116474JT	Carbon	470K ohms 1/10W
R96	YF2116153JT	Carbon	15K ohms 1/10W	R159	YWR1220P473D	Metal	47K ohms
R97	YF2116682JT	Carbon	6.8K ohms 1/10W	R160	YWR1220P153D	Metal	15K ohms
R98,99	YF2116470JT	Carbon	47 ohms 1/10W	R161	R1220P133D	Metal	13K ohms
R100	ERJ6GEYJ472	Carbon	4.7K ohms 1/16W	R162	YWR1220P393D	Metal	39K ohms
R101	ERJ6GEYJ223	Carbon	22K ohms 1/10W	R163	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R102	ERJ6GEYJ472	Carbon	4.7K ohms 1/16W	R164	YF2116331JT	Carbon	330 ohms 1/10W
R103	YF2116563GT	Carbon	56K ohms 1/10W	R165	YWR1220P153D	Metal	15K ohms
R104	YF2116331JT	Carbon	330 ohms 1/10W	R166	YWR1220P473D	Metal	47K ohms
R105	YF2116333GT	Carbon	33K ohms 1/10W	R167	R1220P133D	Metal	13K ohms
R106	ERJ6GEYJ393	Carbon	39K ohms 1/10W	R168	YWR1220P393D	Metal	39K ohms
R107,108	YF2116683GT	Carbon	68K ohms 1/10W	R169	ERJ6GEYJ102	Carbon	1K ohms 1/10W

REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
R170	YF2116331JT	Carbon	330 ohms 1/10W	C41	ECEA1EU4R7	Electrolytic	4.7 μ F 25V
R172	YF2116330JT	Carbon	33 ohms 1/10W	C42	YWRJ410V222M	Electrolytic	2200 μ F 10V
R173,174	YF2116332JT	Carbon	3.3K ohms 1/10W	C43	ECEA1EKA4R7	Electrolytic	4.7 μ F 25V
R175,176	YF2116682JT	Carbon	6.8K ohms 1/10W	C46	ECEA1CU101	Electrolytic	100 μ F 16V
R177,178	ERJ6GEYJ223	Carbon	22K ohms 1/10W	C47	YF400100CHJT	Ceramic	10 pF
R179	YF2116222GT	Carbon	2.2K ohms 1/10W	C50,51	YF400104FZT	Ceramic	0.1 μ F
R180	YF2116332JT	Carbon	3.3K ohms 1/10W	C52	ECSF1AE476	Tantalum	47 μ F 10V or
R181,182	ERJ6GEYJ223	Carbon	22K ohms 1/10W		YWS21A476	Electrolytic	47 μ F 10V
R183	YF2116222GT	Carbon	2.2K ohms 1/10W	C53	ECSF1CE476	Tantalum	47 μ F 16V
R184	YF2116272JT	Carbon	2.7K ohms 1/10W	C54	ECSF1AE336	Tantalum	33 μ F 10V
R185	YF2116302GT	Carbon	3K ohms 1/10W	C55	YF400104FZT	Ceramic	0.1 μ F
R186	ERJ6GEYJ103	Carbon	10K ohms 1/10W	C56	ECEA1AU470	Electrolytic	47 μ F 10V
R187	YF2116682JT	Carbon	6.8K ohms 1/10W	C57	ECEA1CU470	Electrolytic	47 μ F 16V
R188	ERJ6GEYJ103	Carbon	10K ohms 1/10W	C58	YF400101CHJT	Ceramic	100 pF
R189	YF2116561JT	Carbon	560 ohms 1/10W	C59	ECEA1AU470	Electrolytic	47 μ F 10V
R190	ERJ6GEYJ102	Carbon	1K ohms 1/10W	C60	ECEA1AU101	Electrolytic	100 μ F 10V
VR1	EVML3GA00B23	Variable Resistor	2K ohms	C61	ECEA1HU010	Electrolytic	1 μ F 50V
VR2	EVML3GA00B13	Variable Resistor	1K ohms	C62,63	YF400050CHDT	Ceramic	5 pF
VR3,4	EVML3GA00B53	Variable Resistor	5KB ohms	C65	ECSF1CE476	Tantalum	47 μ F 16V
C1	ECEA1CU101	Electrolytic	100 μ F 16V	C66	ECSF1AE476	Tantalum	47 μ F 10V or
C2	YF400120CHJT	Ceramic	12 pF		YWS21A476	Electrolytic	47 μ F 10V
C3	YF400104FZT	Ceramic	0.1 μ F	C67	ECEA1CU101	Electrolytic	100 μ F 16V
C4	ECEA1AU470	Electrolytic	47 μ F 10V	C68	ECEA1AU470	Electrolytic	47 μ F 10V
C5	ECSF1CE476	Tantalum	47 μ F 16V	C69	ECEA1CU100	Electrolytic	10 μ F 16V
C6	ECEA1HU0R1	Electrolytic	0.1 μ F 50V	C70	ECSF1CE106	Tantalum	10 μ F 16V
C7	YF400104FZT	Ceramic	0.1 μ F	C71	ECQM1H104JZ	Plastic	0.1 μ F 50V
C8,9	ECEA1AU470	Electrolytic	47 μ F 10V	C72	ECSF1AE225	Tantalum	2.2 μ F 10V
C10	ECSF1CE476	Tantalum	47 μ F 16V	C73	ECSF1CE476	Tantalum	47 μ F 16V
C11	YF400101CHJT	Ceramic	100 pF	C74	YF400104FZT	Ceramic	0.1 μ F
C12	ECEA1AU101	Electrolytic	100 μ F 10V	C75	ECEA1VSN2R2	Electrolytic	2.2 μ F 35V
C13	ECEA1HU010	Electrolytic	1 μ F 50V	C76	YF400104FZT	Ceramic	0.1 μ F
C14	YF400050CHDT	Ceramic	5 pF	C77	ECSF1CE106	Tantalum	10 μ F 16V
C15	YF400270CHJT	Ceramic	27 pF	C78	ECSF1CE476	Tantalum	47 μ F 16V
C18	ECSF1CE476	Tantalum	47 μ F 16V	C79	YF400103XKT	Ceramic	0.01 μ F
C19	ECEA1AKN470	Electrolytic	47 μ F 10V	C80	ECEA1AU470	Electrolytic	47 μ F 10V
C20	YF400220CHJT	Ceramic	22 pF				
C21	ECEA1AU470	Electrolytic	47 μ F 10V	C81	ECSF1CE476	Tantalum	47 μ F 16V
C22	ECEA1CU101	Electrolytic	100 μ F 16V	C82	ECSF1AE476	Tantalum	47 μ F 10V or
C23	YF400104FZT	Ceramic	0.1 μ F	C83	YWS21A476	Electrolytic	47 μ F 10V
C24	ECEA1AU330	Electrolytic	33 μ F 10V	C84	YF400101CHJT	Ceramic	100 pF
C25	ECEA1CKA100	Electrolytic	10 μ F 16V	C85	YF400104FZT	Ceramic	0.1 μ F
C26	ECEA1HK010	Electrolytic	1 μ F 50V	C86	ECEA1CU100	Electrolytic	10 μ F 16V
C27	YF400104FZT	Ceramic	0.1 μ F	C87	ECEA1CU101	Electrolytic	100 μ F 16V
C28	ECEA1HU010	Electrolytic	1 μ F 50V	C88	ECEA1AKA220	Electrolytic	22 μ F 10V
C29	ECEA1CU470	Electrolytic	47 μ F 16V	C89	ECEA1AU101	Electrolytic	100 μ F 10V
C30	YF400151CHJT	Ceramic	150 pF	C90	YF400224FZT	Ceramic	0.22 μ F
C31	YF400104FZT	Ceramic	0.1 μ F	C91	ECEA0JU101	Electrolytic	100 μ F 6.3V
C32	ECEA1CU100	Electrolytic	10 μ F 16V	C92	YF400103XKT	Ceramic	0.01 μ F
C33,34	YF400104FZT	Ceramic	0.1 μ F	CT1	YWCDY40AS	Trimmer Capacitor	
C35	ECEA1CU470	Electrolytic	47 μ F 16V	CT2	YWCDX20APS	Trimmer Capacitor	
C36	ECEA0JKN470	Electrolytic	47 μ F 6.3V	L7,8	ELJFA470KF	Coil	47 μ H
C37	YF400221CHJT	Ceramic	220 pF	L18,19	ELJFA100KF	Coil	10 μ H
C38	ECEA0JKN330	Electrolytic	33 μ F 6.3V	CF1	ELB48538	Filter	
C39	ECSF1AE476	Tantalum	47 μ F 10V or	CF2	ELKTH101GA	Filter	
C40	YWS21A476	Electrolytic	47 μ F 10V	CF3,4	YWT7K26MBPF	Filter	
	ECEA1AU101	Electrolytic	100 μ F 10V				

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
CF5,6	YWYS30545	Filter	R9	YF2116101JT	Carbon 100 ohms 1/10W
CF7	YWYS30549	Filter	R10	ERJ6GEYJ102	Carbon 1K ohms 1/10W
CF8	YWYS30546	Filter	R11	YF2116331JT	Carbon 330 ohms 1/10W
CN1	FCN215Q050GA	50-pin Connector	R12	YW2116182JT	Carbon 1.8K ohms 1/10W
TP1-10	YW32BM5A	Test- Pin	R13	YF2116331JT	Carbon 330 ohms 1/10W
M38	YWV2HA0977A3	Shield Cover	R14	YF2116473GT	Carbon 47K ohms 1/10W
M39	YWV2HA0978C2	Shield Case	R15	YF2116823JT	Carbon 82K ohms 1/10W
			R16	YF2116561JT	Carbon 560 ohms 1/10W
			R17,18	YF2116221JT	Carbon 220 ohms 1/10W
			R19	YW2116182JT	Carbon 1.8K ohms 1/10W
			R20,21	YF2116101JT	Carbon 100 ohms 1/10W
			R22	ERJ6GEYJ562	Carbon 5.6K ohms 1/10W
			R23	YF2116302GT	Carbon 3K ohms 1/10W
			R24	YF2116511JT	Carbon 510 ohms 1/10W
			R25	YF2116152JT	Carbon 1.5K ohms 1/10W
MODULATOR BOARD			R26,27	YF2116101JT	Carbon 100 ohms 1/10W
PCB8 (RTL)	YWVKZAD7AE3A	Printed Circuit Board Assy	R28	ERDS2TJ301	Carbon 300 ohms 1/4W
IC1	YWUPC4062G2	IC	R29,30	YF2116272JT	Carbon 2.7K ohms 1/10W
IC2	YWLM1881M	IC	R31,32	YF21162R2JT	Carbon 2.2 ohms 1/10W
IC3	YWTC4S69F	IC	R33	ERJ6GEYJ103	Carbon 10K ohms 1/10W
IC4	YWTC4S66FR	IC	R34	ERDS2TJ750	Carbon 75 ohms 1/4W
IC5	TLC272CPS	IC	R35	YF2116331JT	Carbon 330 ohms 1/10W
IC6	YWSN16913P	IC	R36	ERJ6GEYJ102	Carbon 1K ohms 1/10W
IC7	YWTC4S66FR	IC	R37	YWR1220P393D	Metal 39K ohms
IC8	YWTC7S08F	IC	R38	R1220P133D	Metal 13K ohms
IC9	UPD74HC390G	IC	R39	YWR1220P153D	Metal 15K ohms
IC10	YWUPD4538BG	IC	R40	YWR1220P473D	Metal 47K ohms
IC11	YWUPD74HC08G	IC	R43	YF2116272JT	Carbon 2.7K ohms 1/10W
IC12	NJM1496M	IC	R44	YF2116684JT	Carbon 680K ohms 1/10W
IC13,14	UPD74HC221AG	IC	R45-48	ERJ6GEYJ103	Carbon 10K ohms 1/10W
Q1-3	2SC2404-CD	Transistor	R49,50	ERJ6GEYJ223	Carbon 22K ohms 1/10W
Q4	2SD601-RS	Transistor	R51	ERJ6GEYJ103	Carbon 10K ohms 1/10W
Q5-9	2SC2404-CD	Transistor	R52	ERJ6GEYJ562	Carbon 5.6K ohms 1/10W
Q10	2SA1022-CD	Transistor	R53	ERJ6GEYJ103	Carbon 10K ohms 1/10W
Q11,12	2SC2404-CD	Transistor	R54	YF2116224JT	Carbon 220K ohms 1/10W
Q13	2SA1022-CD	Transistor	R55	YWR1220P362D	Metal 3.6K ohms
Q14	2SB793-RS	Transistor	R56	YFR1220P104D	Metal 100K ohms
Q15,16	2SD601-RS	Transistor	R57	YWR1220P223D	Metal 22K ohms
Q17,18	2SB793-RS	Transistor	R58	ERJ6GEYJ562	Carbon 5.6K ohms 1/10W
Q19,20	2SD601-RS	Transistor	R59	YF2116220JT	Carbon 22 ohms 1/10W
Q21	2SA1022-CD	Transistor	R60	YF2116202JT	Carbon 2K ohms 1/10W
Q22,23	2SC2404-CD	Transistor	R61	YW2116182JT	Carbon 1.8K ohms 1/10W
Q24	2SB793-RS	Transistor	R62	YF2116331JT	Carbon 330 ohms 1/10W
Q25	2SD601-RS	Transistor	R63	ERJ6GEYJ102	Carbon 1K ohms 1/10W
Q26	2SB793-RS	Transistor	R64	YWR1220P393D	Metal 39K ohms
Q27,28	2SD601-RS	Transistor	R65	YWR1220P183D	Metal 18K ohms
Q29	2SB709-RS	Transistor	R66	YWR1220P153D	Metal 15K ohms
Q30	2SD601-RS	Transistor	R67	YWR1220P473D	Metal 47K ohms
D1	MA151WA	Diode	R68	YF2116153JT	Carbon 15K ohms 1/10W
R2	YF2116113JT	Carbon	R69,70	YF2116222GT	Carbon 2.2K ohms 1/10W
R3	YF2116822JT	Carbon	R71	YF2116752JT	Carbon 7.5K ohms 1/10W
R4	YF2116152JT	Carbon	R72	ERJ6GEYJ472	Carbon 4.7K ohms 1/16W
R5	YF2116511JT	Carbon	R73,74	ERJ6GEYJ102	Carbon 1K ohms 1/10W
R6	YF2116431JT	Carbon	R75,76	ERJ6GEYJ472	Carbon 4.7K ohms 1/16W
R7	YW2116242JT	Carbon	R77	ERJ6GEYJ102	Carbon 1K ohms 1/10W
R8	YF2116682JT	Carbon			

REF.NO.	PART NO.	DESCRIPTION		REF.NO.	PART NO.	DESCRIPTION	
R78	YF2116821GT	Carbon	820 ohms 1/10W	C24	ECEA1AKA220	Electrolytic	22 μ F 10V
R79	YF2116122JT	Carbon	1.2K ohms 1/10W	C25	YF400102XKT	Ceramic	1000 pF
R80	YF2116471JT	Carbon	470 ohms 1/10W	C26	ECEA0JKA221	Electrolytic	220 μ F 6.3V
R81	YF2116750JT	Carbon	75 ohms 1/10W	C27	YF400103XKT	Ceramic	0.01 μ F
R82	ERJ6GEYJ103	Carbon	10K ohms 1/10W	C28	YF400102XKT	Ceramic	1000 pF
R83,84	YF2116332JT	Carbon	3.3K ohms 1/10W	C29	ECSF1VE105	Tantalum	1 μ F 35V
R85	ERJ6GEYJ102	Carbon	1K ohms 1/10W	C30,31	ECEA1AKG101	Electrolytic	100 μ F 10V
R86	YF2116471JT	Carbon	470 ohms 1/10W	C32	YF400223XKT	Ceramic	0.022 μ F
R87	YF2116332JT	Carbon	3.3K ohms 1/10W	C33	ECEA1AKS470	Electrolytic	47 μ F 10V
R88,89	ERJ6GEYJ102	Carbon	1K ohms 1/10W	C34	YF400104FZT	Ceramic	0.1 μ F
R90,91	YF2116683GT	Carbon	68K ohms 1/10W	C35,36	YW400560UJJT	Ceramic	56 pF
R92	ERJ6GEYJ102	Carbon	1K ohms 1/10W	C37	ECEA1AKG101	Electrolytic	100 μ F 10V
R93	ERJ6GEYJ223	Carbon	22K ohms 1/10W	C38	ECEA0JKA220	Electrolytic	22 μ F 6.3V
R94-97	YF2116222GT	Carbon	2.2K ohms 1/10W	C39	ECEA1AKG101	Electrolytic	100 μ F 10V
R98,99	ERJ6GEYJ102	Carbon	1K ohms 1/10W	C40	ECEA0JKN470	Electrolytic	47 μ F 6.3V
R100	YF2116222GT	Carbon	2.2K ohms 1/10W	C41	ECEA1AKG101	Electrolytic	100 μ F 10V
R101	YF2116332JT	Carbon	3.3K ohms 1/10W	C42	ECQB1H103JF	Plastic	0.01 μ F 50V
R102	YF2116222GT	Carbon	2.2K ohms 1/10W	C43	ECSF1AE476	Tantalum	47 μ F 10V
R103	YF2116272JT	Carbon	2.7K ohms 1/10W	C44	ECEA1AKG101	Electrolytic	100 μ F 10V
R104,105	ERJ6GEYJ223	Carbon	22K ohms 1/10W	C45	ECSF1CE476	Tantalum	47 μ F 16V
R106	ERJ6GEYJ472	Carbon	4.7K ohms 1/16W	C46	ECEA1AKS470	Electrolytic	47 μ F 10V
R107	YF2116332JT	Carbon	3.3K ohms 1/10W	C47	ECEA1AKN470	Electrolytic	47 μ F 10V
R108	ERJ6GEYJ562	Carbon	5.6K ohms 1/10W	C48	ECEA0JKA221	Electrolytic	220 μ F 6.3V
R109,110	YF2116222GT	Carbon	2.2K ohms 1/10W	C49	YF400103XKT	Ceramic	0.01 μ F
R111,112	ERJ6GEYJ102	Carbon	1K ohms 1/10W	C50	YW400080CHD	Ceramic	8 pF
R113	YF2116682JT	Carbon	6.8K ohms 1/10W	C51	YF400121CHJT	Ceramic	120 pF
R114	YF2116202JT	Carbon	2K ohms 1/10W	C52	YW400090CHDT	Ceramic	9 pF
R191	YF2116122JT	Carbon	1.2K ohms 1/10W	C53,54	YF400121CHJT	Ceramic	120 pF
VR1	EVML3GA00B23	Variable Resistor	2K ohms	C55	YW400080CHD	Ceramic	8 pF
VR2	EVML3GA00B13	Variable Resistor	1K ohms	C56	YF400121CHJT	Ceramic	120 pF
VR3	EVML3GA00B23	Variable Resistor	2K ohms				
VR4	EVML3GA00B14	Variable Resistor	10K ohms	C57	YW400090CHDT	Ceramic	9 pF
VR5,6	EVML3GA00B13	Variable Resistor	1K ohms	C58,59	YF400121CHJT	Ceramic	120 pF
VR7,8	EVML3GA00B24	Variable Resistor	20K ohms	C60	YF400103XKT	Ceramic	0.01 μ F
VR9	EVML3GA00B54	Variable Resistor	50K ohms	C61	ECEA1AKG101	Electrolytic	100 μ F 10V
VR10,11	EVML3GA00B24	Variable Resistor	20K ohms	C62,63	ECQB1H103JF	Plastic	0.01 μ F 50V
C1	ECEA1AKG101	Electrolytic	100 μ F 10V	C64	ECSF1AE476	Tantalum	47 μ F 10V
C2	ECEA1AKS470	Electrolytic	47 μ F 10V	C65	ECQP1102GZ	Plastic	1000 pF 100V
C3	YF400180CHJT	Ceramic	18 pF	C66	ECSF1AE476	Tantalum	47 μ F 10V
C4,5	ECEA1AKS470	Electrolytic	47 μ F 10V	C67,68	ECQB1H103JF	Plastic	0.01 μ F 50V
C6	ECEA1AKG101	Electrolytic	100 μ F 10V	C69	YF400121CHJT	Ceramic	120 pF
C7	ECSF1CE476	Tantalum	47 μ F 16V	C70	YW400090CHDT	Ceramic	9 pF
C8	YWRJ410V471M	Electrolytic	470 μ F 10V	C71	YF400121CHJT	Ceramic	120 pF
C9	ECEA1AKN470	Electrolytic	47 μ F 10V	C72	YW400080CHD	Ceramic	8 pF
C10	ECSF1CE476	Tantalum	47 μ F 16V	C73	YF400121CHJT	Ceramic	120 pF
C11	ECSF1EE476	Tantalum	47 μ F 25V	C74	YF400103XKT	Ceramic	0.01 μ F
C12	YWRJ410V222M	Electrolytic	2200 μ F 10V	C75	ECSF0JE476	Tantalum	47 μ F 6.3V
C13	ECSF1CE476	Tantalum	47 μ F 16V	C76	ECEA1CKN100	Electrolytic	10 μ F 16V
C14	ECEA1AKG101	Electrolytic	100 μ F 10V	L4	ELJFA150KF	Coil	15 μ H
C15	ECEA0JKA220	Electrolytic	22 μ F 6.3V	L5	EL05SI390K	Coil	39 μ H
C16,17	ECEA1AKG101	Electrolytic	100 μ F 10V	L6	ELJFA270KF	Coil	27 μ H
C18	ECSF1AE476	Tantalum	47 μ F 10V	L13	EIL7EN010Q	Coil	
C19	YF400102XKT	Ceramic	1000 pF	L14	EIL7EN011Q	Coil	
C20	YF400104FZT	Ceramic	0.1 μ F	L15	EIL7EN012Q	Coil	
C21	YF400224FZT	Ceramic	0.22 μ F	L16	EIL7EN010Q	Coil	
C22	YF400104FZT	Ceramic	0.1 μ F	L17	EIL7EN011Q	Coil	

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
L18,19	EIL7EN012Q	Coil	R17	YF2116474JT	Carbon 470K ohms 1/10W
L20	EIL7EN011Q	Coil	R18	YF2116272JT	Carbon 2.7K ohms 1/10W
L21	EIL7EN010Q	Coil	R19,20	ERJ6GEYJ103	Carbon 10K ohms 1/10W
X1	YWM2D17M734	Crystal Oscillator	R21	ERDS2TJ562	Carbon 5.6K ohms 1/4W
CF1	YWT5V8MLPF	Filter	R22	YF2116823JT	Carbon 82K ohms 1/10W
CF2,3	YWT5V0R5MLPF	Filter	R23	YF2116391JT	Carbon 390 ohms 1/10W
CN1	FCN215Q050GA	Connector	R24	ERG2CJ223	Metal 22K ohms 2W
J1,4	ERJ6GEYOR00	Carbon 0 ohms 1/10W	R25	ERDS2TJ243	Carbon 24K ohms 1/4W
J6	ERJ6GEYOR00	Carbon 0 ohms 1/10W	R26,29	ERDS1TJ473	Carbon 47K ohms 1/2W
TP1-10	YW328M5A	Test-Pin	R30	ERDS2TJ683	Carbon 68K ohms 1/4W
M41	YWV2HA0979A2	Shield Case	R31	ERDS2TJ103	Carbon 10K ohms 1/4W
M42	YWV2HB0977A3	Shield Cover	R32	YF2116684JT	Carbon 680K ohms 1/10W
POWER BOARD			R34	ERDS2TJ102	Carbon 1K ohms 1/4W
			R35	YF2116391JT	Carbon 390 ohms 1/10W
			R36	YF2116202JT	Carbon 2K ohms 1/10W
			R37	ERF2AKR68	Wire Wound 0.68 ohms 2W
			R39,40	ERJ6GEYJ103	Carbon 10K ohms 1/10W
			R41	ERJ6GEYJ223	Carbon 22K ohms 1/10W
			R42	YF2116124GT	Carbon 120K ohms 1/10W
			R43	YF2116134GT	Carbon 130K ohms 1/10W
PCB9 (RTL)	YWVKZPS70P1A	Printed Circuit Board Assy	VR1	EVML3GA00B24	Variable Resistor 20K ohms
IC1	YW78L05UATE2	IC	C1,2	YWLPH2C471S1	Electrolytic 470 μ F 100V
IC2	YWTC7SU04F	IC	C3	ECQM2104KZ	Plastic 0.1 μ F
IC3	YWTC7504F	IC	C5	YWRJ3160V220	Electrolytic 22 μ F 16V
IC4	YWTC4S66FR	IC	C7	YWRJ310V102M	Electrolytic 1000 μ F 10V
IC5	TL062CPS	IC	C8	YWRJ3160V101	Electrolytic 100 μ F 16V
Q3,4	2SD814-QRS	Transistor	C10	ECQM1103KZ	Plastic 0.01 μ F 100V
Q5,6	2SB792A-RS	Transistor	C11,12	YF400200CHJT	Ceramic 20 pF
Q7	2SD814-QRS	Transistor	C13	YF400104FZT	Ceramic 0.1 μ F
Q8	2SJ122	Transistor	C14	ECQM1104KZ	Plastic 0.1 μ F 100V
D1	MA1062-M	Diode	C15	YWRJ316V100M	Electrolytic 10 μ F 16V
D2	MA151K	Diode	C16	YF400223XKT	Ceramic 0.022 μ F
D3-5	MA182	Diode	C17	YWRJ3160V220	Electrolytic 22 μ F 16V
D6	YWERC9102	Diode	C18	YWRJ363V100M	Electrolytic 10 μ F 63V
D7-9	MA182	Diode	C19	YWRJ325V100M	Electrolytic 10 μ F 25V
D10	YFRD22EB2	Diode	C20	YF400103XKT	Ceramic 0.01 μ F
D11	MA1051-M	Diode	C21	YWRJ3160V101	Electrolytic 100 μ F 16V
D12	MA1056H	Diode	C22,23	YWRJ316V101M	Electrolytic 100 μ F 16V
D13	MA182	Diode	L1,2	ELC18E005	Coil 160 μ H
D14	YWRD27EB4	Diode	L3	YWS100522272	Coil 2.7 μ H
D15,16	YFRD22EB2	Diode	X1	YWSC16MHZ	Crystal Oscillator 16 MHZ
D17,18	V03G	Diode	CN1	YW530140410	4-pin Connector
R1	ERJ6GEYJ103	Carbon 10K ohms 1/10W	CN2	YW530140310	3-pin Connector
R2	ERG2CJ223	Metal 22K ohms 2W	CN3	YW53014-0210	2-pin Connector
R4	YW2116182JT	Carbon 1.8K ohms 1/10W	CN4	YW530140310	3-pin Connector
R5,6	ERDS1TJ301	Carbon 300 ohms 1/2W	J38	ERDS2TC0	Jumper Resistor
R8	ERJ6GEYJ102	Carbon 1K ohms 1/10W	TP1,2	YW32BM7R5	Test- Pin
R9	ERF2AK1R0	Wire Wound 2 ohms 2W			
R10	ER050CKF5602	Metal 56K ohms 1/2W			
R11	YW2116182JT	Carbon 1.8K ohms 1/10W			
R12	ERDS1TJ303	Carbon 30K ohms 1W			
R13	ERJ6GEYJ223	Carbon 22K ohms 1/10W			
R14	YF2116302GT	Carbon 3K ohms 1/10W			
R15	ERJ6GEYJ103	Carbon 10K ohms 1/10W			
R16	ERDS1TJ270	Carbon 27 ohms 1W			

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
POWER SUPPLY BOARD					
PCB10 (RTL)	YWSVBP50SX-B	Printed Circuit Board Assy	M44	YWZSVBIS01	Insulator Cover
IC1	YWEH-12A	IC	M45	YWTCA5ACPT03	Rubber
IC2	AN1431T	IC	M46	YWMVTFELA1	Mounting Angle
Q1	2SK1386	FET	M47	YWZNPSVB12SD	Decoration Label
PC1,2	YWPS25011	Photo Coupler	M48	YWMSVCUBW1	Bar A
D1	YWD3SBA60	Diode	M49	YWMSVCUBW2	Bar B
D4	YWERB38-05	Diode			
D5,6	YWUF4005	Diode			
D7	MA645	Diode			
D9	YWRD15EB3	Diode			
R1	YW5D-13	Thermistor			
R2	ERG1SJ823	Metal			
R3	ERX3SJ7R5	Metal			
R4	ERG1ANJ471	Metal			
R6	YWRNF1S102J	Fuse Resistor			
R7	YWRNF1S220J	Fuse Resistor			
R8	ERG1SJ683	Metal			
R9	ERX2SJR22	Metal			
R10	ERQ12AJ101P	Fuse Resistor			
R17	ER0S2CKF3002	Metal			
R18	ER0S2CKF6491	Metal			
R19	ERD25FJ223	Carbon			
R21	ERD25FJ201	Carbon			
R22	ERD25FJ182	Carbon			
R23	ERD25FJ361	Carbon			
R24	ERD25FJ333	Carbon			
VR1	EVM31GA00B53	Variable Resistor			
C1	ECQ112A104MN	Film			
C2,3	ECKDNS222ME	Ceramic			
C4	ECKD3D221KBN	Ceramic			
C5	ECQE2104KF	Film			
C6	ECQ112A333MN	Film			
C7-9	ECQE6103KZ	Film			
C10	YWDEP473K	Film			
C11	ECQV1H105JZ	Film			
C13	YWDEP103K-F	Film			
C16	YWDTN2G102K	Film			
C17-19	ECEA1EFS471	Electrolytic			
C20	EC0S2DG331WL	Electrolytic			
C21	ECEA1VGE470	Electrolytic			
C22	ECQV1H104JZ	Film			
T1	YWSVBT12SD	Transformer			
L1	LFEE221R8A5	Line Filter			
L2	HK10S1R037TV	Choke Coil			
F1	YWGHS3	Fuse			
E1	YWM110CW5PUL	5-pin Terminal			
E2	YWMC11-5P	Terminal Cover			
E3	YWSB2569A	Fuse Holder			
M42	YWMSVBALCA02	Upper Caser			
M43	YWMSVBALCA01	Bottom Case			